

INDEX TO VOLUME 99

Compiled by Jean Ferner

This index is primarily one to new information. Previously published information referred to in this volume has not been indexed unless extensive comparisons or reinterpretations are involved. For some species, especially ones not in the A.O.U. Check-list, scientific names only have been entered, and in some instances entries under scientific names are more extensive than those under vernacular names. New generic, specific, and subspecific names are printed in **boldface** type.

- Aegolius acadicus*, 365-368
A. funereus, 365-368
Agamia agami, 784
Agelaius phoeniceus, 134, 363-364, 515-517, 548-553, 584-586, 710-717
 Ahlquist, Jon E., see Sibley, Charles G., and ———
Aimophila aestivalis, 633-636, 640
Aix sponsa, 116-121
Ajaia ajaja, 275-283
 Alabama, 243-257, 583
 Alaska, 767
 Alatalo, Rauno V., Lars Gustafsson, and Arne Lundberg, Hybridization and breeding success of Collared and Pied flycatchers on the island of Gotland, 285-291
 Alden, Peter, and John Gooders, Finding birds around the world (rev.), 180
 Ali, Salim and S. Dillon Ripley, Handbook of the birds of India and Pakistan. Vol. 2. Megapodes to Crab Plover (rev.), 181
 Alison, Delise, see Sealy, Spencer G., et al.
 Altruism (see Communal breeding)
 Amadon, Dean, review by, 400-401
 Amakih, 130-138
 American Ornithologists' Union, Awards, 182-183; Proceedings of the Ninety-ninth Stated Meeting, 1AA-28AA
Ammodramus savannarum, 157-163
Amphispiza belli, 208-227, 788-791
Anas acuta, 776-777
A. americana, 776-777
A. clypeata, 776-777
A. crecca, 776-777
A. discors, 75-85
A. fulvigula, 776-777
A. platyrhynchos, 75-85, 383-384
A. strepera, 378-379, 776-777
 Anatomical specimens, inventory of, 740-756
 Anatomy and morphology of directional hearing, 403-412; vocalizing, 474-493
 Anatomy and morphology of *Aimophila aestivalis*, 633-636, 641-642, 647; *Ajaia ajaja*, 280-281; *Anas acuta*, 776-777; *A. americana*, 776-777; *A. clypeata*, 776-777; *A. crecca*, 776-777; *A. fulvigula*, 776-777; *A. strepera*, 776-777; *Apteryx australis*, 309-313; *A. haastii*, 309-310; *A. owenii*, 309, 312; *Asio flammeus*, 407; *A. henrici*, 578-579; *Auriparus flaviceps*, 267-272; *Aythya affinis*, 776-777; *A. americana*, 774-777; *A. valisineria*, 776-777; *Brachyramphus brevirostris*, 779; *B. marmoratus*, 779; *Bubo virginianus*, 578-579; *Bucephala albeola*, 776-777; *B. clangula*, 776-777; *Buteo jamaicensis*, 407; *Calypte anna*, 573-576; *Casuarus*, 310-312; *Chondrohierax uncinatus*, 197-206; *Circus cyaneus*, 403-412; *Coccyzus americanus*, 267-272; *Colaptes auratus*, 267-272; *Colius leucocephalus*, 41-56; *C. striatus*, 41-56; *Deltarhynchus flammulatus*, 419-422; *Dendroica nigrescens*, 505-506; *D. occidentalis*, 505-506; *Dromaius*, 312; *Eostrix martinellii*, 578-579; *E. mimica*, 578-579; *Falco sparverius*, 407-408; *Geothlypis trichas*, 267-272; *Guiraca caerulea*, 267-272; hybrid of *Podiceps gallardoi* × *P. occipitalis*, 169; *Icterus galbula*, 267-272; *Junco hyemalis*, 633-636, 641-642, 647; *Melanerpes uropygialis*, 267-272; *Melospiza georgiana*, 633-636, 641-642, 647; *M. lincolni*, 633-636, 641-642, 647; *M. melodia*, 267-272, 633-636, 641-642, 647; *Myiarchus cinerascens*, 267-272, 422; *M. semirufus*, 422; *M. swainsoni*, 420-421; *M. tyrannulus*, 267-272; *Necrobyas edwardsi*, 578-579; *N. harpax*, 578-579; *N. rossignoli*, 578-579; *Ninox novaeseelandiae*, 578-579; *Ogygopteryx wetmorei*, 577-578; *Olor buccinator*, 104; *Oriolus bouroensis*, 186, 189; *O. chinensis*, 186, 188, 190; *O. flavocinctus*, 186, 188-190, 192; *O. forsteri*, 186, 189; *O. larvatus*, 188; *O. oriolus*, 186, 188; *O. phaeochromus*, 186, 189; *O. sagittatus*, 186, 188-190, 193; *O. szalayi*, 186-195; *O. viridifuscus*, 186, 189; *Oxyura jamaicensis*, 776-777; *Passerella iliaca*, 633-636, 641-642, 647; *Passeriformes*, 431-444; *Phainopepla nitens*, 495-501; *Philemon albertus*, 190; *P. argenticeps*, 190; *P. brassi*, 190; *P. buceroides*, 186, 189-190; *P. citreogularis*, 188, 190; *P. cockerelli*, 186, 188, 190; *P. corniculatus*, 188, 190, 193; *P. diemenensis*, 190; *P. eichhornii*, 190; *P. fuscicapillus*, 186, 189; *P. gilolensis*, 190; *P. inornatus*, 190; *P. meyeri*, 188, 190; *P. moluccensis*, 186, 189; *P. novaeguineae*, 186-195; *P. subcorniculatus*, 186, 189; *Picoides scalaris*, 267-272; *Pipilo aberti*, 267-272; *P. chlorurus*, 633-636, 641-642, 647; *Piranga rubra*, 267-272; *Protostrix leptosteus*, 578-579; *P. lydekkeri*, 578-579; *Pycnopygius strictocephalus*, 186-195; *Rhea*, 310-312; *Rhytipterna simplex*, 420-422; *Streptopelia risoria*, 474-493;

INDEX TO VOLUME 99

Compiled by Jean Ferner

This index is primarily one to new information. Previously published information referred to in this volume has not been indexed unless extensive comparisons or reinterpretations are involved. For some species, especially ones not in the A.O.U. Check-list, scientific names only have been entered, and in some instances entries under scientific names are more extensive than those under vernacular names. New generic, specific, and subspecific names are printed in **boldface** type.

- Aegolius acadicus*, 365-368
A. funereus, 365-368
Agamia agami, 784
Agelaius phoeniceus, 134, 363-364, 515-517, 548-553, 584-586, 710-717
 Ahlquist, Jon E., see Sibley, Charles G., and ———
Aimophila aestivalis, 633-636, 640
Aix sponsa, 116-121
Ajaia ajaja, 275-283
 Alabama, 243-257, 583
 Alaska, 767
 Alatalo, Rauno V., Lars Gustafsson, and Arne Lundberg, Hybridization and breeding success of Collared and Pied flycatchers on the island of Gotland, 285-291
 Alden, Peter, and John Gooders, Finding birds around the world (rev.), 180
 Ali, Salim and S. Dillon Ripley, Handbook of the birds of India and Pakistan. Vol. 2. Megapodes to Crab Plover (rev.), 181
 Alison, Delise, see Sealy, Spencer G., et al.
 Altruism (see Communal breeding)
 Amadon, Dean, review by, 400-401
 Amakih, 130-138
 American Ornithologists' Union, Awards, 182-183; Proceedings of the Ninety-ninth Stated Meeting, 1AA-28AA
Ammodramus savannarum, 157-163
Amphispiza belli, 208-227, 788-791
Anas acuta, 776-777
A. americana, 776-777
A. clypeata, 776-777
A. crecca, 776-777
A. discors, 75-85
A. fulvigula, 776-777
A. platyrhynchos, 75-85, 383-384
A. strepera, 378-379, 776-777
 Anatomical specimens, inventory of, 740-756
 Anatomy and morphology of directional hearing, 403-412; vocalizing, 474-493
 Anatomy and morphology of *Aimophila aestivalis*, 633-636, 641-642, 647; *Ajaia ajaja*, 280-281; *Anas acuta*, 776-777; *A. americana*, 776-777; *A. clypeata*, 776-777; *A. crecca*, 776-777; *A. fulvigula*, 776-777; *A. strepera*, 776-777; *Apteryx australis*, 309-313; *A. haastii*, 309-310; *A. owenii*, 309, 312; *Asio flammeus*, 407; *A. henrici*, 578-579; *Auriparus flaviceps*, 267-272; *Aythya affinis*, 776-777; *A. americana*, 774-777; *A. valisineria*, 776-777; *Brachyramphus brevirostris*, 779; *B. marmoratus*, 779; *Bubo virginianus*, 578-579; *Bucephala albeola*, 776-777; *B. clangula*, 776-777; *Buteo jamaicensis*, 407; *Calypte anna*, 573-576; *Casuarus*, 310-312; *Chondrohierax uncinatus*, 197-206; *Circus cyaneus*, 403-412; *Coccyzus americanus*, 267-272; *Colaptes auratus*, 267-272; *Colius leucocephalus*, 41-56; *C. striatus*, 41-56; *Deltarhynchus flammulatus*, 419-422; *Dendroica nigrescens*, 505-506; *D. occidentalis*, 505-506; *Dromaius*, 312; *Eostrix martinellii*, 578-579; *E. mimica*, 578-579; *Falco sparverius*, 407-408; *Geothlypis trichas*, 267-272; *Guiraca caerulea*, 267-272; hybrid of *Podiceps gallardoi* × *P. occipitalis*, 169; *Icterus galbula*, 267-272; *Junco hyemalis*, 633-636, 641-642, 647; *Melanerpes uropygialis*, 267-272; *Melospiza georgiana*, 633-636, 641-642, 647; *M. lincolni*, 633-636, 641-642, 647; *M. melodia*, 267-272, 633-636, 641-642, 647; *Myiarchus cinerascens*, 267-272, 422; *M. semirufus*, 422; *M. swainsoni*, 420-421; *M. tyrannulus*, 267-272; *Necrobyas edwardsi*, 578-579; *N. harpax*, 578-579; *N. rossignoli*, 578-579; *Ninox novaeseelandiae*, 578-579; *Ogygopteryx wetmorei*, 577-578; *Olor buccinator*, 104; *Oriolus bouroensis*, 186, 189; *O. chinensis*, 186, 188, 190; *O. flavocinctus*, 186, 188-190, 192; *O. forsteri*, 186, 189; *O. larvatus*, 188; *O. oriolus*, 186, 188; *O. phaeochromus*, 186, 189; *O. sagittatus*, 186, 188-190, 193; *O. szalayi*, 186-195; *O. viridifuscus*, 186, 189; *Oxyura jamaicensis*, 776-777; *Passerella iliaca*, 633-636, 641-642, 647; *Passeriformes*, 431-444; *Phainopepla nitens*, 495-501; *Philemon albertus*, 190; *P. argenticeps*, 190; *P. brassi*, 190; *P. buceroides*, 186, 189-190; *P. citreogularis*, 188, 190; *P. cockerelli*, 186, 188, 190; *P. corniculatus*, 188, 190, 193; *P. diemenensis*, 190; *P. eichhornii*, 190; *P. fuscicapillus*, 186, 189; *P. gilolensis*, 190; *P. inornatus*, 190; *P. meyeri*, 188, 190; *P. moluccensis*, 186, 189; *P. novaeguineae*, 186-195; *P. subcorniculatus*, 186, 189; *Picoides scalaris*, 267-272; *Pipilo aberti*, 267-272; *P. chlorurus*, 633-636, 641-642, 647; *Piranga rubra*, 267-272; *Protostris leptosteus*, 578-579; *P. lydekkeri*, 578-579; *Pycnopygius strictocephalus*, 186-195; *Rhea*, 310-312; *Rhytipterna simplex*, 420-422; *Streptopelia risoria*, 474-493;

- Strigogyps dubius*, 578-579; *Struthio*, 310-312; *Tachornis uranocetes*, 231-233; *Tyrannus tyrannus*, 420-421; *Tyto alba*, 407; *Zonotrichia albicollis*, 633-636, 641-642, 647; *Z. atricapilla*, 633-636, 641-642, 647; *Z. capensis*, 633-636, 641-642, 647; *Z. leucophrys*, 633-636, 641-642, 647; *Z. querula*, 633-636, 641-642, 647
- Andersen, Douglas C., see Smith, Kimberly G., and Andersen
- Anderson, Bertin W., see Rosenberg, Kenneth V., et al.
- Angell, Tony, Ravens, crows, magpies, and jays (rev.), 176-177
- Ani, Smooth-billed, 787-788
- Ankney, C. Davison, Sex ratio varies with egg sequence in Lesser Snow Geese, 662-666
- Antarctica, 384, 588-589
- Apapane, 130-138
- Apteryx australis*, 309-313
- A. haastii*, 309-310
- A. owenii*, 309, 312
- Ar, Amos, Coues Award, 183
- Arcese, Peter, see Norton, Mary E., et al.
- Archilochus alexandri*, 761-763
- Ardea herodias*, 34
- Argentina, 368-371
- Arizona, 123-128, 260-272, 495-501, 719-723
- Armbruster, Judith Scherpelz, Wood Duck displays and pairing chronology, 116-122
- Arremonops rufivirgatus*, 415
- Asio flammeus*, 407
- A. henrici*, 578-579
- Auk, Great, 167-168
- Auriparus flaviceps*, 260-272
- Austin, Oliver L., Jr., In Memoriam: Edgar Gustav Franz Sauer, 570-572
- Australia, 187-195
- Aythya affinis*, 369, 776-777
- A. americana*, 774-777
- A. collaris*, 369
- A. ferina*, 369
- A. fuligula*, 369
- A. marila*, 369
- A. nyroca*, 369
- A. valisineria*, 369, 776-777
- Baker, Myron Charles, Individuality of vocalizations in Dunlin: a possible acoustic basis for recognition of parent by offspring, 771-774
- Bananaquit, 134
- Baptista, Luis F., and Martin L. Morton, Song dialects and mate selection in montane White-crowned Sparrows, 537-547
- Barbour, D. Bruce, and Anthony R. DeGange, Reciprocal allopreening in the Brown-headed Nuthatch, 171
- Barrett, Victoria A., and E. R. Vyse, Comparative genetics of three Trumpeter Swan populations, 103-108
- Barrowclough, George F., Commentary: Geographic variation, predictiveness, and subspecies, 601-603; review by, 814-815
- Basileuterus rufifrons*, 134
- Bayer, Range D., How important are bird colonies as information centers?, 31-40
- Behavior, activity patterns, 150-152, 304-305, 319-322; age-related, 149-155, 567-568, 784-786; agonistic, 58-65, 90, 92-93, 96, 117-119, 191-192, 321-323, 557, 562, 584-585, 591, 676-677, 758-761, 787-788; antipredator, 100-101, 342-346, 459-466; breeding, 58-65, 90-101, 109-114, 116-121, 148-155, 169, 172, 319-324, 328-331, 332-340, 342-346, 357, 383-384, 463-464, 469-470, 519-524, 555-563, 591-592, 623-630, 719-723, 758-761, 771-773, 781-783, 784-786, 787-788; copulatory, 93, 101, 118, 120, 758-761; courtship, 92-93, 116-121, 169; dominance, 93, 100, 141-146, 192; effect of environment on, 151-155, 424-429, 588-589, 623-630; feeding, 64-65, 90, 148-155, 191-192, 200-202, 263-266, 274, 332-340, 347-352, 374-375, 381, 383-384, 415, 470-471, 507, 548-553, 557-562, 565-569, 701-708, 761-763, 771-773, 781-783, 791-792; forced copulation, 758-761; incubation, 93, 95-96, 629-630, 784-786; interspecific, 191-192, 584-585, 590-592, 720-723; learning, 446-457, 548-553, 567, 590-591; maintenance, 171; nesting, 92-101, 119, 172, 330-331, 591-592, 627-630, 758-761, 784-786, 787-788; ontogeny, 446-457; pair, 90, 92-101, 116-121, 171, 319-324, 758-761; parental care, 96, 148-155, 332-340, 383-384, 470-471, 557-563, 771-773, 781-783; roosting, 424-429; sexual differences in, 60, 118-120, 150, 152-154, 786; site fidelity, 97-100, 109-114, 319-320, 323-324, 328-331; social, 93, 95, 100-101, 118-121; territorial, 58-65, 90-101, 319-324, 357, 557-563, 584-585, 676-677, 761-763, 787-788; thermoregulatory, 304-305, 424-429, 498-500, 588-589; vocal, 92-93, 96, 117-121, 169, 172, 343, 416-418, 446-457; 506-507, 584-586, 590-591, 676, 771-773, 787
- Behavior of *Agelaius phoeniceus*, 548-553, 584-585; *Aix sponsa*, 116-121; *Anas platyrhynchos*, 384; *Archilochus alexandri*, 761-763; *Auriparus flaviceps*, 263-266; *Calidris alpina*, 771-773; *Cathartes aura*, 374-375; *Catoptrophorus semipalmatus*, 88-101; *Chondestes grammacus*, 591-592; *Chondrohierax uncinatus*, 200-202; *Coccyzus americanus*, 263-266; *Colaptes auratus*, 263-266; *Coragyps atratus*, 374-375; *Corvus caurinus*, 347-352; *Crotophaga ani*, 787-788; *Deltarhynchus flammulatus*, 415-418; *Dendroica nigrescens*, 506-507; *D. occidentalis*, 506-507; *D. petechia*, 332-340; *Dumetella carolinensis*, 148-155; *Eutoxeres aquila*, 172; *Geothlypis trichas*, 263-266; *Guiraca caerulea*, 263-266; *Gymnorhinus cyanocephalus*, 519-524; *Haliaeetus leucocephalus*, 348-350; *Hirundo rustica*, 519-524; *Icterus galbula*, 263-266; *Junco hyemalis*, 304-305; *Larus californicus*, 623-630; *L. delawarensis*, 328-331, 623-

- 630; *L. marinus*, 58–65; *L. occidentalis*, 565–569; *Megasceryle alcyon*, 357; *Melanerpes uropygialis*, 263–266; *Melospiza georgiana*, 446–457; *M. melodia*, 263–266, 555–563; *Mimus polyglottos*, 584–586, 591–592; *Molothrus ater*, 319–324; *Myiarchus cinerascens*, 263–266; *M. tyrannulus*, 263–266; *Nyctanassa violacea*, 381; *Nycticorax nycticorax*, 784–786; *Oriolus szalayii*, 192; *Pandion haliaetus*, 781–783; *Passer domesticus*, 590–591; *Petrochelidon pyrrhonota*, 459–466, 758–761; *Phalacrocorax atriceps*, 588–589; *Philemon novaeguineae*, 192; *Philohela minor*, 791–792; *Picoides borealis*, 676–677; *P. scalaris*, 263–266; *Pipilo aberti*, 263–266, 719–723; *Piranga rubra*, 263–266; *Podiceps gallardoi*, 169; *P. occipitalis*, 169; *Psaltiriparus minimus*, 424–429; *Pycnopygius strictocephalus*, 192; *Quiscalus mexicanus*, 519–524; *Rhodothraupis celaeno*, 787; *Rynchops niger*, 109–114; *Sarcoramphus papa*, 374; *Sitta pusilla*, 171; *Spizella arborea*, 304–305; *Toxostoma dorsale*, 719–723; *Turdus migratorius*, 342–346, 701–708; *Uria lomvia*, 469–471
- Berger, A. J., Hawaiian birdlife (rev.), 390–391
- Berman, Susan L., and Robert J. Raikow, The hind-limb musculature of the mousebirds (Coliiformes), 41–57
- Bernstein, Neil P., see Volkman, Nicholas J., et al.; and Stephen J. Maxson, Absence of wing-spreading behavior in the Antarctic Blue-eyed Shag (*Phalacrocorax atriceps bransfieldensis*), 588–589
- Berrypecker, Black 134
- Best, Louis B., and Kenneth L. Petersen, Effects of Stage of Breeding Cycle on Sage Sparrow Detectability, 788–791; see Johnson, Ellen J., and
- Bickham, John W., see Hobart, Holly H., et al.
- Biermann, Gloria C., and Spencer G. Sealy, Parental feeding of nestling Yellow Warblers in relation to brood size and prey availability, 332–341
- Biogeography, islands, 285–290
- Blackbird, Brewer's, 34; Red-winged, 134, 363–364, 515–517, 548–553, 584–586, 710–717
- Blankespoor, Gilbert W., John Oolman, and Craig Uthe, Eggshell strength and cowbird parasitism of Red-winged Blackbirds, 363–365
- Bleiweiss, Robert, see Ortiz-Crespo, Fernando I., and
- Blohm, Robert J., Differential occurrence of yearling and adult male Gadwalls in pair bonds, 378–379
- Bock, Carl E., Synchronous fluctuations in Christmas Bird Counts of Common Redpolls and Piñon Jays, 382–383
- Bock, Walter, Editor of Reviews, 174–181; reviews by, 171–181, 399–400
- Bombicilla cedrorum*, 166
- Bonasa umbellus*, 365–366
- Booby, Red-footed, 34
- Borror, Donald J., and Maurice L. Glitz, Florida bird songs (rev.), 821
- Bourne, W. R. P., and J. R. Jehl, Jr., Commentary: Variation and nomenclature of Leach's Storm-Petrels, 793–797
- Brachyramphus brevirostris*, 779
- B. marmoratus*, 778–780
- Braune, B. M., and D. E. Gaskin, Feeding ecology of nonbreeding populations of larids off Deer Island, New Brunswick, 67–76
- Braun, Michael J., and Victor Emanuel, Records of the Crimson-collared Grosbeak (*Rhodothraupis celaeno*) from Texas, 787
- Breeding cycle, effect on censusing, 788–791
- Breeding of (see also Behavior, breeding; Breeding season; Breeding success; Clutch size; Eggs; Incubation and incubation period; Nest and nest site) *Agamia agami*, 784; *Agelaius phoeniceus*, 710–717; *Aix sponsa*, 116–121; *Ajaia ajaja*, 275–283; *Ammodramus savannarum*, 157–163; *Amphispiza belli*, 788–791; *Anas platyrhynchos*, 383–384; *A. strepera*, 378–379; *Auriparus flaviceps*, 262–263; *Catoptrophorus semipalmatus*, 88–101; *Cepphus columba*, 347, 349, 352; *Chen caerulescens*, 662–665; *Chondestes grammacus*, 591–592; *Coccyzus americanus*, 262–263; *Colaptes auratus*, 262–263; *Corvus caurinus*, 350–351; *Crotophaga ani*, 787–788; *Deltarhynchus flammulatus*, 418–419, 421; *Dendragapus obscurus*, 687–692; *Dendroica petechia*, 332–340; *Dumetella carolinensis*, 148–156; *Eremophila alpestris*, 714; *Eudytes chrysocome*, 384; *E. chrysolophus*, 386; *Eutoxeres aquila*, 172–173; *Ficedula albicollis*, 285–290; *F. hypoleuca*, 285–290; *Geothlypis trichas*, 262–263; *Guiraca caerulea*, 262–263; *Gymnorhinus cyanocephalus*, 519–524; *Hirundo rustica*, 519–524; hybrids of *Ficedula albicollis* × *F. hypoleuca*, 289–290; *Icterus galbula*, 262–263; *Iridoprocne bicolor*, 695–699; *Junco hyemalis*, 650–659; *Larus californicus*, 623–630; *L. delawarensis*, 328–331, 623–630; *L. glaucescens*, 347, 351; *L. marinus*, 58–65; *Megasceryle alcyon*, 357–361; *Melanerpes formicivorus*, 529–531; *M. uropygialis*, 262–263; *Melospiza melodia*, 262–263, 555–563; *Mimus polyglottos*, 591–592; *Molothrus ater*, 316–325, 719–723; *Myiarchus cinerascens*, 262–263; *M. swainsoni*, 852; *M. tyrannulus*, 262–263; *Nycticorax nycticorax*, 784–786; *Pandion haliaetus*, 781–783; *Passerculus sandwichensis*, 157–163; *Petrochelidon pyrrhonota*, 463–464, 758–761; *Phalacrocorax auritus*, 347–352; *P. pelagicus*, 347–352; *Picoides scalaris*, 262–263; *Pinguinus impennis*, 167–168; *Pipilo aberti*, 262–263, 719–723; *Piranga rubra*, 262–263; *Podiceps gallardoi*, 169; *P. occipitalis*, 169; *Poocetes gramineus*, 157–163; *Pterodroma hypoleuca*, 236–241; *Quiscalus mexicanus*, 519–524; *Rynchops niger*, 109–114; *Spiza americana*, 292–297; *Spizella pusilla*, 157–163; *Toxostoma dorsale*, 719–723; *Uria lomvia*, 468–471; *Zonotrichia leucophrys*, 1–12, 541–542, 714
- Breeding season of *Agamia agami*, 784; *Aix sponsa*, 118–119; *Ajaia ajaja*, 277; *Ammodramus savanna-*

- rum, 162; *Anas platyrhynchos*, 384; *Auriparus flaviceps*, 262; *Cathartes aura*, 375; *C. burrovianus*, 375; *Catoptrophorus semipalmatus*, 90, 93-94; *Coccyzus americanus*, 262; *Colaptes auratus*, 262; *Coragyps atratus*, 375; *Dellarhynchus flammulatus*, 418; *Dendragapus obscurus*, 687-692; *Ficedula albicollis*, 287-288; *F. hypoleuca*, 287-288; *Geothlypis trichas*, 262; *Guiraca caerulea*, 262; *Gymnorhinus cyanocephalus*, 520; *Hirundo rustica*, 520; *Icterus galbula*, 262; *Junco hyemalis*, 652, 656-657; *Larus marinus*, 59; *Melanerpes uropygialis*, 262; *Melospiza melodia*, 262; *Myiarchus cinerascens*, 262; *M. tyrannulus*, 262; *Nycticorax nycticorax*, 786; *Oceanodroma leucorhoa*, 793-796; *Passerculus sandwichensis*, 162; *Petrochelidon pyrrhonota*, 758; *Picoides scalaris*, 262; *Pipilo aberti*, 262; *Piranga rubra*, 262; *Poecetes gramineus*, 162; *Pterodroma hypoleuca*, 236; *Quiscalus mexicanus*, 520; *Spiza americana*, 293; *Spizella pusilla*, 162; *Zonotrichia leucophrys*, 2
- Breeding success, 141-146; effects of interference on, 97, 159-161, 276, 278, 328-331, 347-352
- Breeding success of *Ajaia ajaja*, 277-278, 283; *Ammodramus savannarum*, 157-163; *Anas discors*, 79-80; *A. platyrhynchos*, 79, 81-82; *Catoptrophorus semipalmatus*, 97; *Cephus columba*, 349, 351, 352; *Dendragapus obscurus*, 692; *Ficedula albicollis*, 287-288; *F. hypoleuca*, 287-288; *Gymnorhinus cyanocephalus*, 522; hybrids of *Ficedula albicollis* × *F. hypoleuca*, 288-289; *Iridoprocne bicolor*, 695-699; *Junco hyemalis*, 652-653, 657-659; *Larus californicus*, 626-627, 629; *L. delawarensis*, 626-627, 629; *L. glaucescens*, 351-352; *L. marinus*, 59, 61-62, 64-65; *Megascyle alcyon*, 357, 359; *Melospiza melodia*, 558-559, 561-562; *Nycticorax nycticorax*, 785; *Passerculus sandwichensis*, 157-163; *Phalacrocorax auritus*, 348-352; *P. pelagicus*, 348-352; *Pipilo aberti*, 721; *Poecetes gramineus*, 157-163; *Rynchops niger*, 109-114; *Spiza americana*, 292-297; *Spizella pusilla*, 157-163; *Toxostoma dorsale*, 721; *Zonotrichia leucophrys*, 2-3, 10, 541-542
- Brenowitz, Eliot A., Aggressive response of Red-winged Blackbirds to Mockingbird song imitation, 584-586
- British Columbia, 347-352, 555-563, 687-692, 758-761
- Brown, James H., see Dunning, John B., Jr., and —
- Bruning, Donald F., reviews by, 398-399
- Bubo virginianus*, 578-579
- Bubulcus ibis*, 34
- Bucephala albeola*, 369, 776-777
- B. clangula*, 369, 776-777
- Bufflehead, 776-777
- Bunting, Blue, 415
- Burger, Joanna, The role of reproductive success in colony-site selection and abandonment in Black Skimmers (*Rynchops niger*), 109-115
- Bushtit, Common, 424-429
- Busto, Benjamin, see Ramo, Cristina, and —
- Buteo jamaicensis*, 407
- Butler, Robert W., Wing fluttering by mud-gathering Cliff Swallows: avoidance of "rape" attempts?, 758-761
- Butler, Ronald G., and Saskia Janes-Butler, Territoriality and behavioral correlates of reproductive success of Great Black-backed Gulls, 58-66
- Cactospiza pallida*, 18-19
- Cade, Tom J., The falcons of the world (rev.), 815-818
- Calamospiza melanocorys*, 123-128
- Calcarius ornatus*, 123-128
- Calidris alpina*, 771-773
- California, 1-12, 424-429, 459-466, 527-528, 537-545, 565-569, 573-576, 580-581, 710-717, 761-763
- Calls (see Vocalizations)
- Calocitta formosa*, 415
- Calypte anna*, 573-576
- Camarhynchus parvulus*, 18-19, 22
- Canvasback, 776-777
- Capella gallinago*, 366
- Caracara, Chimango, 170-171
- Cardinal, Common, 134
- Cardinalis cardinalis*, 134
- Carduelis flammea*, 382-383
- C. pinus*, 366
- C. spinus*, 134
- Carey, Cynthia, Edward L. Thompson, Carol M. Vleck, and Frances C. James, Avian reproduction over an altitudinal gradient: incubation period, hatchling mass, and embryonic oxygen consumption, 710-718
- Carpenter, Charles C., see Crowell, Diana K. et al.
- Carpodacus purpureus*, 134, 366
- Carter, Harry R., see Sealy, Spencer G., et al.
- Casey, Richard M., see Gaunt, Abbot S., et al.
- Casmerodius albus*, 34
- Casuaris*, 310-312
- Catbird, Gray, 148-156
- Cathartes aura*, 372-375
- C. burrovianus*, 372-375
- Catoptrophorus semipalmatus*, 88-101
- Census methods, 75-87, 788-791
- Cephus columba*, 347-352
- Certhidea olivacea*, 16, 18-20, 22
- Chaetura pelagica*, 366
- Chaffinch, 132-134
- Chandler, Robert M., A reevaluation of the Pliocene owl *Lechusa stirtoni* Miller, 580-581
- Chaplin, Susan B., The energetic significance of huddling behavior in Common Bushtits (*Psaltiriparus minimus*), 424-430
- Chat, Red-breasted, 415
- Chen caerulescens*, 662-665
- Cheng, Tso-Hsin, Fauna Sinica, series vertebrata.

- Aves 4: Galliformes (rev.), 396-398; Distributional checklist of Chinese birds. Second edition (rev.), 806-807
- Cherry, Jeffrey D., Fat deposition and length of stop-over of migrant White-crowned Sparrows, 725-732
- Chile, 170-171
- Chlamydera cerviniventris*, 192
- Chondestes grammacus*, 123-128, 591-592
- Chondrohierax uncinatus*, 197-206
- Chordeiles acutipennis*, 764
- Circus cyaneus*, 403-412
- Clangula hyemalis*, 369
- Clutch size, effect on hatchability, 529, 534
- Clutch size of *Agelaius phoeniceus*, 712; *Ajaia ajaja*, 277-278; *Ammodramus savannarum*, 158; *Cephus columba*, 351; *Certhidea olivacea*, 20; *Chen caerulescens*, 662; *Deltarhynchus flammulatus*, 419; *Ficedula albicollis*, 287-288; *F. hypoleuca*, 287-288; *Geospiza cinerostriata*, 20; *G. difficilis*, 20; *G. fortis*, 20; *G. magnirostris*, 20; *G. scandens*, 20; *Gymnorhinus cyanocephalus*, 521; *Hirundo rustica*, 522; *Iridoprocne bicolor*, 696-698; *Junco hyemalis*, 652-653, 655-658; *Larus californicus*, 627-628; *L. delawarensis*, 330, 627; *L. glaucescens*, 351; *L. marinus*, 59; *Passerculus sandwichensis*, 158; *Phalacrocorax auritus*, 350; *P. pelagicus*, 350; *Poocetes gramineus*, 158; *Pterodroma hypoleuca*, 236; *Quiscalus mexicanus*, 522; *Spiza americana*, 293-294; *Spizella pusilla*, 158; *Zonotrichia leucophrys*, 2, 10
- Coccyzus americanus*, 260-272
- Coereba flaveola*, 134
- Colaptes auratus*, 260-272, 366, 767-768, 770
- Colius leucocephalus*, 41-56
- C. striatus*, 41-56
- Collins, Charles T., review by, 181
- Colluricincla harmonica*, 192
- Colombia, 372-375
- Colorado, 710-717
- Commentaries, The condor case: a continuing plea for realism, see Pitelka, Frank A.; The condor case: a rallying cry!, see Severinghaus, William D.; Forum: Avian subspecies in the 1980's, 593-615; Geographic variation, predictiveness, and subspecies, see Barrowclough, George F.; Intra-specific geographic variation and the subspecies concept, see Zusi, Richard L.; Macaroni Penguins: comment on mistaken King George Island breeding record and southerly range extension, see Volkman, Nicholas J., et al.; Might there be a resurrection of the subspecies?, see Gill, Frank B.; A modern concept of the species, see Monroe, Burt L., Jr.; Of what use are subspecies?, see Mayr, Ernst; Retain subspecies—at least for the time being, see Johnson, Ned K.; Subspecies and species: fundamentals, needs, and obstacles, see Phillips, Allan R.; Subspecies and the study of geographic variation, see Storer, Robert W.; The subspecies concept in the 1980's, see O'Neill, John P.; The subspecies concept: then, now, and always, see Lanyon, Wesley E.; Subspecific taxonomy: unfashionable does not mean irrelevant, see Parkes, Kenneth C.; Variation and nomenclature of Leach's Storm-Petrels, see Bourne, W. R. P., and J. R. Jehl, Jr.
- Communal breeding of *Pandion haliaetus*, 781-783
- Conebill, Cinereous, 134
- Conirostrum cinereum*, 134
- Cooper, J. E., and J. T. Eley, First aid and care of wild birds (rev.), 398-399; and A. G. Greenwood (Eds.), Recent advances in the study of raptor diseases (rev.), 400-401
- Cooperative breeding (see Communal breeding)
- Coracina papuensis*, 192
- Coragyps atratus*, 374-375
- Cormorant, Double-crested, 347-352; Pelagic, 347-352
- Cornelius, Stephen E., Wetland salinity and salt gland size in the Redhead *Aythya americana*, 774-778
- Corvus brachyrhynchos*, 134, 158-159
- C. caurinus*, 347-352
- Coturnicops noveboracensis*, 365-366
- Cowbird, Brown-headed, 161, 294-295, 316-325, 363-364, 515-517, 557, 719-723
- Cracraft, Joel, 733-739
- Cramp, Stanley (Chief Editor), Handbook of the birds of Europe, the Middle East and North Africa—The birds of the Western Palearctic (rev.), 807-809
- Croll, Donald A., and Robert W. Holmes, A note on the occurrence of diatoms on the feathers of diving seabirds, 765-766
- Cromartie, Eugene, see White, Donald H., et al.
- Crossbill, Red, 134
- Crotophaga ani*, 787-788
- Crow, Common, 134, 158-159; Northwestern, 347-352
- Crowell, Diana K., Charles C. Carpenter, and David G. Huffman, Nest-sharing by a Lark Sparrow, 591-592
- Crypturellus cinnamomeus*, 415
- Cuckoo, Yellow-billed, 260-272
- Custer, Thomas W., and William E. Davis, Jr., Nesting by One-year-old Black-crowned Night Herons on Hope Island, Rhode Island, 784-786
- Cyanerpes cyaneus*, 134
- Cyanocitta cristata*, 366
- Cyanocompsa parellina*, 415
- Cygnus olor*, 106
- Darwin, Charles, The descent of man, and selection in relation to sex (rev.), 399
- Davis, William E., Jr., see Custer, Thomas W., and ———
- Davis, William James, Territory size in *Megasceryle alcyon* along a stream habitat, 353-362
- DeGange, Anthony R., see Barbour, D. Bruce, and ———

- Deltarhynchus flammulatus*, 414-422
Dendragapus obscurus, 687-692
Dendrocopos major, 767-770
D. minor, 767-770
Dendroica nigrescens, 503-513
D. occidentalis, 503-513
D. petechia, 332-340
Diamond, Jared M., Mimicry of friarbirds by orioles, 187-196; review by, 820-821
Dicaeum pectorale, 192
Dickcissel, 292-297
Dickerman, Robert W., Further notes on the juvenal plumage of the Lesser Nighthawk, 764
Diglossa albilatera, 134
Dinopium benghalense, 770
Diseases and parasites of *Gavia arctica*, 766; *G. stellata*, 766; *Urta aalge*, 765-766
Distribution of *Agamia agami*, 784; *Arremonops rufivirgatus*, 415; *Brachyramphus marmoratus*, 778-780; *Calocitta formosa*, 415; *Carduelis flammea*, 382-383; *Chordeiles acutipennis*, 764; *Crypturellus cinnameus*, 415; *Cyanocoma parellina*, 415; *Deltarhynchus flammulatus*, 414-415; *Eudypetes chrysosoma*, 384; *E. chrysolophus*, 386; *Euthlypis lachrymosa*, 415; *Granatellus venustus*, 415; *Gymnorhinus cyanocephalus*, 382-383; *Leptotila verreauxi*, 415; *Momotus mexicanus*, 415; *Myiarchus nuttingi*, 415; *M. swainsoni*, 581-582; *M. tuberculifer*, 415; *M. tyrannulus*, 415; *Oceanodroma leucorhoa*, 793-796; *Olor buccinator*, 103; *Oreotrochilus chimborazo*, 376-377; *Patagona gigas*, 377; *Pharomachrus mocinno*, 385; *Pheucticus chrysopleps*, 415; *Pinguinus impennis*, 167-168; *Polioptila albiloris*, 415; *Rhodothraupis celaeno*, 787; *Thryothorus pleurostictus*, 415
Distribution, spatial, 58-65, 74, 91, 94-98, 216, 263, 266-267, 318-320, 324-325, 557
Dixon, Keith L., reviews by, 821
Dove, Mourning, 583; Ring, 474-493; White-fronted, 415
Dromaius, 312
Dryocopus martius, 767, 769-770
Duck, Mottled, 776-777; Ruddy, 776-777; Wood, 116-121
Dufty, Alfred M., Jr., Movements and activities of radio-tracked Brown-headed Cowbirds, 316-327
Dumetella carolinensis, 148-156
Dunlin, 771-773
Dunning, John B., Jr., and James H. Brown, Summer rainfall and winter sparrow densities: a test of the food limitation hypothesis, 123-129
Eagle, Bald, 347-352
Ecology, coloniality, 459-466; commensal feeding, 24-29, 31-38; community structure, 123-128, 162-163, 260-272; competition, 75, 113, 123-128, 141-146, 162, 268-272, 322-325, 357-361, 374-375, 379, 510, 584-585, 591-592, 687-692, 761-763; demography, 6, 10, 243-257, 322-323, 378, 662-665; dispersal, 6-9, 11, 246-249, 324; habitat partitioning, 90-91, 93-95, 204, 243-257, 263-272, 507-510, 680-682; habitat selection, 70-72, 74-75, 90-91, 93-95, 162-163, 263-272, 277, 292-297, 355, 507-513, 625, 629, 701-708, 730-731; morphology, 267-268, 271-272, 510; population structure, 6-7, 10-12, 220-227, 243-257, 378-379, 526-534, 555-563, 680-682, 692; predator-prey relationships, 26-27, 71-72, 74-75, 100-101, 112-114, 162-163, 205, 347-352, 459-466, 576, 586-587, 655-656, 699, 701-708; seasonal variation, 70-71, 116, 118-121, 151-152, 243-257, 342-346, 468-471, 699; sex ratio, 243-257, 317, 322-323, 555-563, 662-665; territoriality, 1-12, 90-91, 93-95, 292-297, 317-325, 353-361, 468-471, 557-563, 584-585, 675-682, 687-692, 761-763
Ecology of *Aix sponsa*, 116, 118-121; *Ammodramus savannarum*, 162-163; *Amphispiza belli*, 220-227; *Anas strepera*, 378-379; *Archilochus alexandri*, 761-763; *Ardea herodias*, 34; *Auriparus flaviceps*, 260-272; *Bubulcus ibis*, 34; *Calamospiza melanocorys*, 123-128; *Calcarius ornatus*, 123-128; *Calypte anna*, 576; *Carduelis flammea*, 382-383; *Casmerodius albus*, 34; *Cathartes aura*, 374-375; *Catoptrophorus semipalmatus*, 90-101; *Cephus columba*, 347-352; *Chen caerulescens*, 662-665; *Chondestes grammacus*, 123-128; *Chondrohierax uncinatus*, 204-205; *Coccyzus americanus*, 260-272; *Colaptes auratus*, 260-272; *Coragyps atratus*, 374-375; *Corvus caurinus*, 347-352; *Dendragapus obscurus*, 687-692; *Dendroica nigrescens*, 503-513; *D. occidentalis*, 503-513; *Egretta thula*, 34; *Eudocimus albus*, 34; *Euphagus cyanocephalus*, 34; *Falco eleonora*, 34; *Ficedula albicollis*, 289-290; *F. hypoleuca*, 289-290; *Florida caerulea*, 34; *Geothlypis trichas*, 260-272; *Guiraca caerulea*, 260-272; *Gymnorhinus cyanocephalus*, 382-383; *Haliaeetus leucocephalus*, 347-352; hybrids of *Ficedula albicollis* × *F. hypoleuca*, 289-290; *Hydranassa tricolor*, 34; *Icterus galbula*, 260-272; *Iridoprocne bicolor*, 699; *Junco hyemalis*, 123-128, 243-257, 305-307, 650-659; *Larus bulleri*, 24-29; *L. californicus*, 623-630; *L. canus*, 34; *L. delawarensis*, 623-630; *L. glaucescens*, 347-352; *L. philadelphia*, 67-75; *Leptotilus crumeniferus*, 34; *Megasceryle alcyon*, 353-361; *Melanerpes uropygialis*, 260-272; *Melospiza lincolni*, 123-128; *M. melodia*, 260-272, 555-563; *Molothrus ater*, 316-325; *Morus bassanus*, 34; *Myiarchus cinerascens*, 260-272; *M. tyrannulus*, 260-272; *Oreotrochilus chimborazo*, 376-377; *Passerculus sandwichensis*, 123-128, 162-163; *Pelecyanus erythrorhynchos*, 34; *P. onocrotalus*, 34; *P. rufescens*, 34; *Petrochelidon pyrrhonota*, 459-466; *Phalacrocorax auritus*, 347-352; *P. pelagicus*, 347-352; *Phoenicoperus ruber*, 34; *Picoides borealis*, 675-682; *P. scalaris*, 260-272; *Pipilo aberti*, 260-272; *Piranga rubra*, 260-272; *Poocetes gramineus*, 123-128, 162-163; *Pygocelis adeliae*, 34; *Quelea quelea*, 34; *Rynchops niger*, 109-114; *Spiza americana*, 292-297; *Spizella arborea*,

- 305-307; *S. breweri*, 123-128; *S. passerina*, 123-128; *S. pusilla*, 162-163; *Stercorarius parasiticus*, 34; *Sterna hirundo*, 65-75; *S. paradisaea*, 34, 65-75; *Sula sula*, 34; *Tachornis uranocetes*, 233-235; *Turdus migratorius*, 342-346, 701-708; *Uria lomvia*, 468-471; *Zonotrichia leucophrys*, 1-12, 123-128
- Ectoparasitism** (see Diseases and parasites)
- Ectopistes migratorius*, 365-366
- Ecuador, 172-173, 376-377
- Eggs**, density, specific gravity, and volume, 237; hatchability, 526-534; laying, 93, 287-288, 695-699; physiology, 236-241, 710-717; sequence, 662-665; sex ratio, 662-665; size, 683-686; temperature, 238-239
- Eggs**, descriptions and measurements, *Agelaius phoeniceus*, 363-364, 710-717; *Ajaia ajaja*, 283; *Cactospiza pallida*, 18-19; *Camarhynchus parvulus*, 18-19, 22; *Certhidea olivacea*, 16, 18-20, 22; *Chen caerulescens*, 662, 665; *Geospiza conirostris*, 16-20, 22; *G. difficilis*, 16-20; *G. fortis*, 17-20; *G. fuliginosa*, 18-19; *G. magnirostris*, 16-20; *G. scandens*, 18-20, 22; *Gymnorhinus cyanocephalus*, 521; *Hirundo rustica*, 522; *Iridoprocne bicolor*, 696-697; *Lagopus lagopus*, 684-687; *Molothrus ater*, 363-364, 720-721; *Nesomimus parvulus*, 16, 19; *Pipilo aberti*, 720-721; *Platyspiza crassirostris*, 16, 19; *Pterodroma hypoleuca*, 236-241; *Quiscalus mexicanus*, 521; *Toxostoma dorsale*, 720-721; *Zenaidura macroura*, 18-19, 22
- Egret, Cattle, 34; Great, 34; Snowy, 34
- Egretta thula*, 34
- Emanuel, Victor, see Braun, Michael J., and —
- English-Loeb, Gregory M., see Wilkinson, Gerald S., and —
- Environment**, influence on clutch size, 20-21; egg size, 20-21; hatchability, 526-534; migration, 730-731
- Environment**, influence on *Agelaius phoeniceus*, 710-717; *Aix sponsa*, 117-119; *Ammodramus sarnianus*, 158-160; *Anas acuta*, 776-777; *A. americana*, 776-777; *A. clypeata*, 776-777; *A. crecca*, 776-777; *A. fulvigula*, 776-777; *A. platyrhynchos*, 383-384; *A. strepera*, 776-777; *Aythya affinis*, 776-777; *A. americana*, 774-777; *A. valisineria*, 776-777; *Bucephala albeola*, 776-777; *B. clangula*, 776-777; *Calamospiza melanocorys*, 123-128; *Calcarius ornatus*, 123-128; *Centropus semipalmatus*, 88-101; *Chen caerulescens*, 664; *Chondestes grammacus*, 123-128; *Dumetella carolinensis*, 151-155; *Iridoprocne bicolor*, 699; *Junco hyemalis*, 123-128, 243-257, 299-307, 658-659; *Lagopus lagopus*, 683-686; *Larus californicus*, 623-630; *L. delawarensis*, 623-630; *L. philadelphia*, 74; *Melospiza lincolni*, 123-128; *Oxyura jamaicensis*, 77; *Passerculus sandwichensis*, 123-128, 158-160; *Petrochelidon pyrrhonota*, 462; *Phainopepla nitens*, 495-501; *Phalacrocorax atriceps*, 588-589; *Poocetes gramineus*, 123-128, 158-160; *Psittirostra bailliei*, 667-673; *P. cantans*, 667-673; *Rynchops niger*, 112-114; *Spizella arborea*, 299-307; *S. breweri*, 123-128; *S. passerina*, 123-128; *S. pusilla*, 158-160; *Sterna hirundo*, 74; *S. paradisaea*, 74; *Tachornis uranocetes*, 234-235; *Uria lomvia*, 468-471; *Zonotrichia leucophrys*, 123-128, 730-731
- Eostrix martinellii*, 578-579
- E. mimica*, 578-579
- Eremophila alpestris*, 366, 714
- Erickson, Richard A., review by, 389-390
- Eudocimus albus*, 34
- Eudyptes chrysocome*, 384
- E. chrysolophus*, 386
- Euphagus cyanocephalus*, 34
- Euthlypis lachrymosa*, 415
- Eutoxeres aquila*, 172-173
- Evans, Roger M., Foraging-flock recruitment at a Black-billed Gull colony: implications for the Information Center hypothesis, 24-30
- Evolution** of bill polymorphism, 205; bill size, 576; coloniality, 26-29, 37; directional hearing ability, 412; egg rejection, 722-723; growth rate, 141-146; intraspecific brood parasitism, 522-524; mimicry, 193; plumage dimorphism, 500-501
- Evolution** of *Agelaius phoeniceus*, 516-517; *Chondestes cinereus*, 205; *Himatione sanguinea*, 130-138; *Icterus graduacauda*, 516-517; *Junco hyemalis*, 642-643; *Melospiza georgiana*, 642-643; *M. lincolni*, 642-643; *M. melodia*, 642-643; *Molothrus ater*, 516-517; *Oriolus chinensis*, 186, 188, 190; *O. flavocinctus*, 186, 188-190, 192; *O. forsteri*, 186, 189; *O. larvatus*, 188; *O. oriolus*, 186, 188; *O. phaeochromus*, 186, 189; *O. sagittatus*, 186, 188-190, 193; *O. szalayii*, 186-195; *O. viridifuscus*, 186, 189; *Passerella iliaca*, 642-643; *Pipilo chlorurus*, 642-643; *Pycnopygius stricklandi*, 193; *Quiscalus mexicanus*, 516-517; *Q. quiscula*, 516-517; *Sturnella magna*, 516-517; *Vestiaria coccinea*, 130-138; *Viridonia virens*, 130-138; *Zonotrichia albicollis*, 642-643; *Z. atricapilla*, 642-643; *Z. capensis*, 642-643; *Z. leucophrys*, 642-643; *Z. querula*, 642-643
- Ewald, Paul W., and William A. Williams, Function of the bill and tongue in nectar uptake by hummingbirds, 573-576; see Norton, Mary E., et al.
- Falco eleonorae*, 34
- F. sparverius*, 366, 407-408
- Falcon, Eleonora's, 34
- Falkland Islands, 384
- Feathers (see Molts and plumages)
- Ficedula albicollis*, 285-290
- Finch, Deborah M., Rejection of cowbird eggs by Crissal Thrashers, 719-724
- Finch, Gray-crowned Rosy, 166; Laysan, 667-673; Purple, 134, 366
- Fitzpatrick, John W., review by, 810-813
- Flamingo, Greater, 34
- Fledging success (see Breeding success)

- Flicker, Common, 260-272, 366, 767-768, 770
 Florida, 171, 342-346, 710-717, 787-788
Florida caerulea, 34
 Flycatcher, Ash-throated, 260-272; Brown-crested, 415; Collared, 285-290; Dusky-capped, 415; Flammulated, 414-422; Nutting's, 415; Pied, 285-290; Swainson's, 581-582; Wied's Crested, 260-272
 Food and feeding habits, effect on hatchability, 526-534
 Food and feeding habits of *Agelaius phoeniceus*, 548-553; *Archilochus alexandri*, 761-763; *Ardea herodias*, 34; *Asio flammeus*, 407; *Auriparus flaviceps*, 260-272, 274; *Bombicilla cedrorum*, 166; *Brachyrhamphus marmoratus*, 779; *Bubulcus ibis*, 34; *Buteo jamaicensis*, 407; *Calamospiza melanocorys*, 123-128; *Calcarius ornatus*, 123-128; *Calypte anna*, 573-576; *Carduelis flammea*, 382-383; *Casmerodius albus*, 34; *Cathartes aura*, 374-375; *Catoptrophorus semipalmatus*, 90-91; *Chondestes grammacus*, 123-128; *Chondrohierax uncinatus*, 200-206; *Circus cyaneus*, 403-412; *Coccyzus americanus*, 260-272, 274; *Colaptes auratus*, 260-272, 274; *Coragyps atratus*, 374-375; *Corvus caurinus*, 347-352; *Deltarhynchus flammulatus*, 415; *Dendragapus obscurus*, 692; *Dendroica nigrescens*, 503-513; *D. occidentalis*, 503-513; *D. petechia*, 332-340; *Dumetella carolinensis*, 148-156; *Egretta thula*, 34; *Eudocimus albus*, 34; *Euphagus cyanocephalus*, 34; *Falco eleonorae*, 34; *F. sparverius*, 407-408; *Florida caerulea*, 34; *Geothlypis trichas*, 260-272, 274; *Guiraca caerulea*, 260-272, 274; *Gymnorhinus cyanocephalus*, 382-383; *Haliaeetus leucocephalus*, 348-349; *Hydranassa tricolor*, 34; *Icterus galbula*, 260-272, 274; *Junco hyemalis*, 123-128, 654-657; *Larus bulleri*, 24-29; *L. canus*, 34; *L. philadelphia*, 67-75; *L. occidentalis*, 565-569; *Leptoptilos crumeniferus*, 34; *Leucosticte tephrocotis*, 166; *Megasceryle alcyon*, 353-361; *Melanerpes uropygialis*, 260-272, 274; *Melospiza lincolni*, 123-128; *M. melodia*, 260-272, 274; *Milvago chimango*, 170-171; *Morus bassanus*, 34; *Myiarchus cinerascens*, 260-272, 274; *M. tyrannulus*, 260-272, 274; *Nyctanassa violacea*, 380-381; *Oriolus szalayi*, 191-192; *Pandion haliaetus*, 781-783; *Passer domesticus*, 165; *Passerculus sandwichensis*, 123-128, 166; *Pelecanus erythrorhynchos*, 34; *P. onocrotalus*, 34; *P. rufescens*, 34; *Philemon novaeguineae*, 191-192; *Philohela minor*, 791-792; *Phoenicopterus ruber*, 34; *Picoides scalaris*, 260-272, 274; *Pipilo aberti*, 260-272, 274; *Piranga rubra*, 260-272, 274; *Poocetes gramineus*, 123-128; *Pygospizus strictocephalus*, 191-192; *Pygoscels adeliae*, 34; *Quelea quelea*, 34; *Spizella breweri*, 123-128; *S. passerina*, 123-128; *Stercorarius parasciticus*, 34; *Sterna hirundo*, 67-75; *S. paradisaea*, 34, 67-75; *Sula sula*, 34; *Tachyeres patachonicus*, 371; *Turdus migratorius*, 701-708; *Tyto alba*, 407; *Uria lomvia*, 468-471; *Zonotrichia leucophrys*, 2, 123-128, 165
 Foraging (see Food and feeding habits; Behavior, feeding)
 Fossils of *Aegolius acadicus*, 365-368; *A. funereus*, 365-368; *Bonasa umbellus*, 365-366; *Capella gallinago*, 366; *Carduelis pinus*, 366; *Carpodacus purpureus*, 366; *Chaetura pelagica*, 366; *Colaptes auratus*, 366; *Coturnicops noveboracensis*, 365-366; *Cyanocitta cristata*, 366; *Ectopistes migratorius*, 365-366; *Eremophila alpestris*, 366; *Falco sparverius*, 366; *Lateralallus jamaicensis*, 365; *Lechusa stirtoni*, 580-581; *Melanerpes carolinus*, 366; *Otus asio*, 366; *Pedicecetes phasianellus*, 366; *Perisoreus canadensis*, 365-368; *Philohela minor*, 366; *Picoides villosus*, 366; *Pinicola enucleator*, 365-368; *Pipilo erythrophthalmus*, 366; *Podilymbus podiceps*, 365; *Protonotrix leptosteus*, 576-579; *Sayornis phoebe*, 366; *Sitta canadensis*, 366; *Strix varia*, 366; *Sturnella* sp., 366; *Surnia ulula*, 365-368; *Tachornis uranocetes*, 230-235; *Turdus migratorius*, 366; *Tympanuchus cupido*, 365-366; *Zonotrichia albicollis*, 366
 Fringilla coelebs, 132-134
 Gadwall, 378-379, 776-777
 Galapagos Islands, 15-22
 Ganet, 34
 Gaskin, D. E., see Braune, B. M., and ———
 Gaston, A. J., and D. N. Nettleship, Factors determining seasonal changes in attendance at colonies of the Thick-billed Murre *Uria lomvia*, 468-473
 Gaunt, Abbott S., Sandra L. L. Gaunt, and Richard M. Casey, Syringeal mechanics reassessed: evidence from *Streptopelia*, 474-494
 Gaunt, Sandra L. L., see Gaunt, Abbot S., et al.
 Gavia arctica, 766
 G. stellata, 766
 Genetics, genetic variation, 103-107, 636-638
 Genetics of *Agelaius phoeniceus*, 134, 514-517; *Basiluterus rufifrons*, 134; *Cardinalis cardinalis*, 134; *Carduelis spinus*, 134; *Carpodacus purpureus*, 134; *Coereba flaveola*, 134; *Colaptes auratus*, 767-768, 770; *Conirostrum cinereum*, 134; *Corvus brachyrhynchos*, 134; *Cyanerpes cyaneus*, 134; *Cygnus olor*, 106; *Dendrocopos major*, 767-770; *D. minor*, 767-770; *Diglossa albilatera*, 134; *Dinopium benghalense*, 770; *Dryocopus maritus*, 767, 769-770; *Fringilla coelebs*, 132-134; *Geothlypis trichas*, 134; *Himatione sanguinea*, 130-138; *Icterus graduacauda*, 514-517; *I. spurius*, 134; *Iridosornis analis*, 134; *Junco hyemalis*, 633, 636-645, 648-649; *Lagopus lagopus*, 683-686; *Loxia curvirostra*, 134; *Megalaima haemacephala*, 770; *M. zeylanica*, 770; *Melanocharis nigra*, 134; *Melospiza georgiana*, 633, 636-645, 648-649; *M. lincolni*, 134, 633, 636-645, 648-649; *M. melodia*, 633, 636-645, 648-649; *Molothrus ater*, 514-517; *Monarcha guttula*, 134; *Olor buccinator*, 103-107; *O. columbianus*, 106-107; *Passerella iliaca*, 633, 636-645, 648-649; *Picoides maharrattensis*, 770; *P. pubescens*, 767-768, 770; *P.*

- villosus, 767-768, 770; *Picus viridis*, 769-770; *Pinicola enucleator*, 134; *Pipilo chlorurus*, 633, 636-645, 648-649; *Quiscalus mexicanus*, 514-517; *Q. quiscula*, 514-517; *Ramphocelus carbo*, 134; *Setophaga ruticilla*, 134; *Sphyrapicus varius*, 767-768, 770; *Spinus tristis*, 134; *Sturnella magna*, 514-517; *Sturnus vulgaris*, 134; *Sylvia borin*, 134; *Tangara vitriolina*, 134; *Thraupis palmarum*, 134; *Turdus migratorius*, 134; *Vestiaria coccinea*, 130-138; *Vireo olivaceus*, 134; *Viridonia virens*, 130-138; *Zonotrichia albicollis*, 633, 636-645, 648-649; *Z. atricapilla*, 633, 636-645, 648-649; *Z. capensis*, 633, 636-645, 648-649; *Z. leucophrys*, 633, 636-645, 648-649; *Z. querula*, 633, 636-645, 648-649
- Geographic variation in bill size, 198-205; egg size, 17-18; mortality, 243-257; plumage, 200, 206, 764, 793-796; salt gland size, 774-777; sex ratio, 243-257; vocalizations, 218-220; wing length, 199, 201
- Geographic variation in *Amphispiza belli*, 218-220; *Aythya americana*, 774-777; *Chondrohierax uncinatus*, 198-206; *Chordeiles acutipennis*, 764; *Geospiza difficilis*, 17; *G. fortis*, 17-18; *Junco hyemalis*, 243-257; *Oceanodroma leucorhoa*, 793-796
- Geospiza conirostris*, 16-20, 22
G. difficilis, 16-20
G. fortis, 17-20
G. fuliginosa, 18-19
G. magnirostris, 16-20
G. scandens, 18-20, 22
Geothlypis trichas, 134, 260-272
 Germany, 188
Gerygone olivacea, 192
- Gill, Frank B., Commentary: Might there be a resurrection of the subspecies?, 598-599
- Gnatcatcher, White-lored, 415
- Gochfeld, Michael, Reproductive synchrony and predator satiation: an analogy between the Darling effect in birds and mast fruiting in plants, 586-587
- Goldeneye, Common, 776-777
- Goldfinch, American, 134
- Goose, Lesser Snow, 662-665
- Gotland Island, 285-290
- Grackle, Common, 515-517; Great-tailed, 515-517, 519-524
- Granatellus venustus*, 415
- Grant, Gilbert S., Ted N. Pettit, Hermann Rahn, G. Causey Whittow, and Charles V. Paganelli, Regulation of water loss from Bonin Petrel (*Pterodroma hypoleuca*) eggs, 236-242
- Grant, P. R., Variation in the size and shape of Darwin's finch eggs, 15-23
- Grebe, Hooded, 168-169; Pied-billed, 365; Silver, 168-169
- Grenada, 198-206
- Grosbeak, Blue, 260-272; Crimson-collared, 787; Pine, 134, 365-368; Yellow, 415
- Grouse, Blue, 687-692; Red, 683-686; Ruffed, 365-366; Sharp-tailed, 366
- Growth and development of *Agelaius phoeniceus*, 710-717; *Ajaia ajaja*, 278-281; *Dendroica petechia*, 337-339; *Dumetella carolinensis*, 151; *Iridoprocne bicolor*, 697; *Junco hyemalis*, 653-654, 657-658; *Melospiza melodia*, 559, 561
- Guillemot, Pigeon, 347-352
- Guiraca caerulea, 260-272
- Gull, Black-billed, 24-29; Bonaparte's 67-75; California, 623-630; Glaucous-winged, 347-352; Great Black-backed, 58-65; Herring, 112-114; Laughing, 96-97, 112; Mew, 34; Ring-billed, 328-331, 623-630; Western, 565-569
- Gunn, Scott J., see Hobart, Holly H., et al.
- Gustafsson, Lars, see Alatalo, Rauno V., et al.
- Gymnorhinus cyanocephalus, 382-383, 519-524
- Habitat, effect on hatchability, 526-534
- Habitat of *Aegolius acadicus*, 365-368; *A. funereus*, 365-368; *Agamia agami*, 784; *Ajaia ajaja*, 275-276; *Ammodramus savannarum*, 157-163; *Auriparus flaviceps*, 261; *Bonasa umbellus*, 365-368; *Capella gallinago*, 365-368; *Carduelis pinus*, 365-368; *Carpodacus purpureus*, 365-368; *Catoptrophorus semipalmatus*, 88-89; *Chaetura pelagica*, 365-368; *Coccyzus americanus*, 261; *Colaptes auratus*, 261, 365-368; *Coturnicops noveboracensis*, 365-368; *Cyanocitta cristata*, 365-368; *Deltarhynchus flammulatus*, 414-415; *Dendroica nigrescens*, 504, 507-508, 513; *D. occidentalis*, 504, 507-508, 513; *D. petechia*, 332; *Ectopistes migratorius*, 365-368; *Eremophila alpestris*, 365-368; *Falco sparverius*, 365-368; *Geothlypis trichas*, 261; *Guiraca caerulea*, 261; *Icterus galbula*, 261; *Larus californicus*, 623-626, 629; *L. delawarensis*, 328-331, 623-625, 629; *L. marinus*, 59; *L. philadelphia*, 67-69; *Laterallus jamaicensis*, 365-368; *Megasceryle alcyon*, 353-361; *Melanerpes carolinus*, 365-368; *M. uropygialis*, 261; *Melospiza melodia*, 261; *Myiarchus cinerascens*, 261; *M. tyrannulus*, 261; *Oreotrochilus chimborazo*, 376-377; *Otus asio*, 365-368; *Passerculus sandwichensis*, 157-163; *Patagona gigas*, 377; *Pedioecetes phasianellus*, 365-368; *Perisoreus canadensis*, 365-368; *Philohela minor*, 365-368; *Picoides scalaris*, 261; *P. villosus*, 365-368; *Pinicola enucleator*, 365-368; *Pipilo aberti*, 261; *P. erythrophthalmus*, 365-368; *Piranga rubra*, 261; *Podilymbus podiceps*, 365-368; *Poocetes gramineus*, 157-163; *Psittirostra bailliei*, 667-668; *P. cantans*, 667-668; *Rhodithraupis celaeno*, 787; *Rynchops niger*, 110; *Sayornis phoebe*, 365-368; *Sitta canadensis*, 365-368; *Spizella pusilla*, 157-163; *Sterna hirundo*, 67-69; *S. paradisaea*, 67-69; *Strix varia*, 365-368; *Sturnella* sp., 365-368; *Sturnia ulula*, 365-368; *Tachornis uranoceros*, 234-235; *Turdus migratorius*, 365-368; *Tympanuchus cupido*, 365-366; *Zonotrichia albicollis*, 365-368; *Z. leucophrys*, 2-3
- Hadden, Don, Birds of the North Solomons (rev.), 820-821
- Haematopus palliatus*, 112
- Halcyon sancta*, 192
- Haliaeetus leucocephalus*, 347-352

- Hall, George A., review by, 616-617
- Hamerstrom, Frances, Strictly for the chickens (rev.), 178
- Hannecart, F., and Y. Letocart, Oiseaux de N^{lle} Calédonie et des Loyautés (rev.), 400
- Hannon, Susan J., Lennart G. Sopuck, and Fred C. Zwickel, Spring movements of female Blue Grouse: evidence for socially induced delayed breeding in yearlings, 687-694
- Hanson, Donald A., Distribution of the Quetzal in Honduras, 385
- Hardy, J. W., review by, 394; Sounds of Florida's birds (rev.), 821
- Harlow, Richard F., see Hooper, Robert G., et al.
- Hartl, Daniel L., A primer of population genetics (rev.), 814-815
- Hatching success (see Breeding success)
- Hatching, timing of, 652, 656-657, 695-699
- Hawaii, 130-138, 236-241, 667-673
- Hawk, Marsh, 403-412; Red-tailed, 407
- Hayward, James L., Don E. Miller, and Calvin R. Hill, Mount St. Helens ash: its impact on breeding Ring-billed and California gulls, 623-631
- Heron, Chestnut-bellied, 784; Great Blue, 34; Little Blue, 34; Louisiana, 34; Yellow-crowned Night, 380-381
- Higuchi, Hiroyoshi, Ecology and evolution of birds (rev.), 401
- Hill, Calvin R., see Hayward, James L., et al.
- Himatione sanguinea, 130-138
- Hirundo rustica, 519-524
- Hitchcock, R. R., see Mirarchi, R. E., and ———
- Hobart, Holly H., Scott J. Gunn, and John W. Bickham, Karyotypes of six species of North American blackbirds (Icteridae: Passeriformes), 514-518
- Holmes, Robert W., see Croll, Donald A., and ———
- Homberger, Dominique G., Funktionelle-morphologische Untersuchungen zur Radiation der Ernährungs- und Trinkmethoden per Papageien (Psittaci) (rev.), 177-178
- Home range (see Territory)
- Honduras, 385
- Honeycreeper, Blue, 134; White-sided, 134
- Hooper, Robert G., Lawrence J. Niles, Richard F. Harlow, and Gene W. Wood, Home ranges of Red-cockaded Woodpeckers in coastal South Carolina, 675-682
- Howard, Richard, and Alick Moore, A complete checklist of the birds of the world (rev.), 399-400
- Howe, Marshall A., Social organization in a nesting population of eastern Willets (*Catoptrophorus semipalmatus*), 88-102
- Huffman, David G., see Crowell, Diana K., et al.
- Hummingbird, Anna's, 573-576; Black-chinned, 761-763; Giant, 377
- Humphrey, Philip S., and Bradley C. Livezey, Flightlessness in Flying Steamer-Ducks, 368-372
- Hybridization of *Ficedula albicollis* × *F. hypoleuca*, 285-290; *Podiceps gallardoi* × *P. occipitalis*, 168-169
- Hydranassa tricolor*, 34
- Ibis, White, 34
- Icterus galbula*, 260-272
- I. graduacauda*, 515-517
- I. spurius*, 134
- Idaho, 788-791
- liwi, 130-138
- Incubation in *Agelaius phoeniceus*, 710-717; *Ajaia ajaia*, 277; *Catoptrophorus semipalmatus*, 93, 95-96; *Certhidea olivacea*, 20; *Eremophila alpestris*, 715; *Geospiza conirostris*, 21; *G. difficilis*, 20-21; *G. magnirostris*, 21; *Iridoprocne bicolor*, 695-699; *Nycticorax nycticorax*, 785-786; *Pterodroma hypoleuca*, 237-238; *Zonotrichia leucophrys*, 2-3, 715
- Indiana, 243-257, 299-307
- Inventory of anatomical specimens, 740-756
- Iowa, 148-155
- Iridoprocne bicolor*, 695-699
- Iridosornis analis*, 134
- Jaeger, Parasitic, 34
- Jaksić, Fabian M., see Yáñez, José L., et al.
- James, Frances C., review by, 177; see Carey, Cynthia, et al.
- Janes-Butler, Saskia, see Butler, Ronald G., and ———
- Jarrell, Gordon H., see Shields, Gerald F., et al.
- Jay, Blue, 366; Gray, 365-368; Piñon, 382-383, 519-524
- Jehl, J. R., Jr., see Bourne, W. R. P., and ———
- Jenkinson, Marion Anne, see Zusi, Richard L., et al.
- Jennings, Michael C., The birds of Saudi Arabia: a check-list (rev.), 178-179
- Johnson, Douglas H., see Klett, A. T., and ———
- Johnson, Ellen J., and Louis B. Pest, Factors affecting feeding and brooding of Gray Catbird nestlings, 148-156
- Johnson, Ned K., Commentary: Retain subspecies—at least for the time being, 605-606
- Jordan, Richard H., and Storrs L. Olson, First record of the Great Auk (*Pinguinus impennis*) from Labrador, 167-168
- Junco, Dark-eyed, 123-128, 243-257, 299-307, 632-649, 650-659
- Junco hyemalis*, 123-128, 243-257, 299-307, 632-649, 650-659
- Kale, Herbert W., II, editor of Recent Literature, 1A-24A, 1B-26B, 1C-27C, 1D-19D
- Kansas, 292-297, 711-717
- Keast, Allen, and Eugene S. Morton (Eds.), Migrant birds in the Neotropics: ecology, behavior, distribution, and conservation (rev.), 801-804
- Keeton, William T., Brewster Award, 182
- Kestrel, American, 366, 407-408

- Ketterson, Ellen D., and Val Nolan Jr., The role of migration and winter mortality in the life history of a temperate-zone migrant, the Dark-eyed Junco, as determined from demographic analyses of winter populations, 243-259; see Stuebe, Miki M., and ———
- King, Ben, review by, 178-179
- King, James R., see Murphy, Mary E., and ———
- King, Warren B., Compiler, Endangered birds of the world. The I.C.B.P. bird red data book (rev.), 180
- Kingfisher, Belted, 353-361
- Kite, Hook-billed, 197-206
- Kleptoparasitism, 565-569
- Klett, A. T., and Douglas H. Johnson, Variability in nest survival rates and implications to nesting studies, 77-87
- Klippel, Walter, see Parmalee, Paul W., and ———
- Klomp, H., and J. W. Woldendorp (Eds.), The integrated study of bird populations. Proceedings of a symposium held in Wageningen, The Netherlands, 17-21 September 1979 (rev.), 391-394
- Koenig, Walter D., Ecological and social factors affecting hatchability of eggs, 526-536
- Koester, Friedemann, Observations on migratory Turkey Vultures and Lesser Yellow-headed Vultures in northern Colombia, 372-375
- Kress, Stephen W., The Audubon Society handbook for birders (rev.), 175-176
- Labrador, 167-168
- Lagopus lagopus*, 683-686
- Laing, Hamilton M., Allan Brooks: artist naturalist (rev.), 180
- Janier, Glen A., Jr., A test for conspecific egg discrimination in three species of colonial passerine birds, 519-525
- Lanyon, Wesley E., Behavior, morphology, and systematics of the Flammulated Flycatcher of Mexico, 414-423; Evidence for wintering and resident populations of Swainson's Flycatcher (*Myiarchus swainsoni*) in northern Suriname, 581-582; Commentary: The subspecies concept: then, now, and always, 603-604
- Lark, Horned, 366, 714
- Larus argentatus*, 112-114
- L. atricilla*, 96-97, 112
- L. bulleri*, 24-29
- L. californicus*, 623-630
- L. canus*, 34
- L. delawarensis*, 328-331, 623-630
- L. glaucescens*, 347-352
- L. marinus*, 58-65
- L. occidentalis*, 565-569
- L. philadelphia*, 67-75
- Laterallus jamaicensis*, 365
- Lechusa stirtoni*, 580-581
- Leptoptilos crumeniferus*, 34
- Leptotila verreauxi*, 415
- Leucosticte tephrocotis*, 166
- Ligon, J. David, review by, 176-177
- Livezey, Bradley, C., see Humphrey, Philip S., and ———
- Loflin, Robert K., Ani male apparently killed by other anis while attempting to parasitize nest, 787-788
- Long, John L., Introduced birds of the world (rev.), 621
- Longevity (see Mortality and survival)
- Loon, Arctic, 766; Red-throated, 766
- Lophodytes cucullatus*, 369
- Louette, M., The birds of Cameroon. An annotated check-list (rev.), 176
- Loxia curvirostra*, 134
- Lundberg, Arne, see Alatalo, Rauno V., et al.
- Magpie-Jay, White-throated, 415
- Maine, 58-65, 725-731
- Mallard, 75-85, 383-384
- Manitoba, 332-340, 378-379, 695-699, 771-773, 774-777
- Marler, Peter, and Susan Peters, Structural changes in song ontogeny in the Swamp Sparrow *Melospiza georgiana*, 446-458
- Maron, John L., Shell-dropping behavior of Western Gulls (*Larus occidentalis*), 565-569
- Marshall, William H., Does the Woodcock bob or rock—and why?, 791-792
- Martindale, Steven, review by, 387-388
- Mason, J. Russell, and Russell F. Reidinger, Observational learning of food aversions in Red-winged Blackbirds (*Agelaius phoeniceus*), 548-554
- Massachusetts, 781-783
- Mating systems, effect on hatchability, 526-534
- Mating systems of *Catoptrophorus semipalmatus*, 98-101; *Gymnorhinus cyanocephalus*, 520; *Hirundo rustica*, 520; *Melanerpes formicivorus*, 529-531; *Melospiza melodia*, 555-563; *Molothrus ater*, 316-325; *Quiscalus mexicanus*, 520; *Spiza americana*, 292-297; *Zonotrichia leucophrys*, 4-6, 9
- Matthew, Kathryn, Rockhopper Penguin (*Eudyptes chrysocome*) record at Palmer Station, Antarctica, 384
- Maxson, Stephen J., see Bernstein, Neil P., and ———
- Mayfield, Harold F., reviews by, 175-176, 809-810
- Mayr, Ernst, Commentary: Of what use are subspecies?, 593-595; reviews by, 618-620, 621-622
- Meadowlark, 366; Eastern, 515-517
- Measurements (see Weights and ———)
- Megasceryle alcyon*, 353-361
- Megalaima haemacephala*, 770
- M. zeylanica*, 770
- Megatriorchis doriae*, 191
- Melanerpes carolinus*, 366
- M. formicivorus*, 527-528
- M. uropygialis*, 260-272
- Melanitta fusca*, 369

- M. nigra*, 369
M. perspicillata, 369
Melanocharis nigra, 134
Meliphaga flavescens, 192
Melospiza georgiana, 446-457, 632-649
M. lincolni, 123-128, 134, 632-649
M. melodia, 260-272, 555-563, 632-649
 Memorials of (see also Obituaries), Sauer, Edgar Gustav Franz, 570-572
Mergus albellus, 369
M. merganser, 369
M. serrator, 369
 México, 198-206, 414-422
 Michigan, 243-257, 328-331
 Migration and orientation, effects of weather on, 730-731
 Migration and orientation of *Cathartes aura*, 372-375; *C. burrovianus*, 372-375; *Catoptrophorus semipalmatus*, 90, 96-97; *Ficedula albicollis*, 289-290; *F. hypoleuca*, 289-290; hybrids of *Ficedula albicollis* × *F. hypoleuca*, 289; *Junco hyemalis*, 243-257; *Zonotrichia leucophrys*, 725-731
 Miller, Don E., see Hayward, James L., et al.
Milvago chimango, 170-171
 Mimicry of *Oriolus bouroensis*, 186, 189; *O. chinensis*, 186, 188, 190; *O. flavocinctus*, 186, 188-190, 192; *O. forsteni*, 186, 189; *O. larvatus*, 188; *O. oriolus*, 186, 188; *O. phaeochromus*, 186, 189; *O. sagittatus*, 186, 188-190, 193; *O. szalay*, 186-195; *O. viridifuscus*, 186, 189; *Pycnopygius strictocephalus*, 186-195
Mimus polyglottos, 584-586, 591-592
 Minnesota, 710-717, 774-777, 791-792
 Mirarchi, R. E., and R. R. Hitchcock, Radio-instrumented Mourning Dove preyed upon by gray rat snake, 583
 Missouri, 116-121
 Mitchell, Christine A., see White, Donald H., et al.
 Mockingbird, 584-586, 591-592
Molothrus ater, 161, 294-295, 316-325, 363-364, 515-517, 557, 719-723
 Molts and plumages of *Ajaia ajaja*, 279-280; *Bombicilla cedrorum*, 166; *Brachyramphus marmoratus*, 779; *Chondrohierax uncinatus*, 199-200, 205-206; *Chordeiles acutipennis*, 764; *Leucosticte tephrocotis*, 166; *Myiarchus swainsoni*, 581-582; *Oceanodroma leucorhoa*, 793-796; *Oriolus bouroensis*, 186, 189; *O. chinensis*, 186, 188, 190; *O. flavocinctus*, 186, 188-190, 192; *O. forsteni*, 186, 189; *O. larvatus*, 188; *O. oriolus*, 186, 188; *O. phaeochromus*, 186, 189; *O. sagittatus*, 186, 188-190, 193; *O. szalay*, 186-195; *O. viridifuscus*, 186, 189; *Passer domesticus*, 165; *Passerculus sandwichensis*, 166; *Phainopepla nitens*, 495-501; *Phalacrocorax atriceps*, 588-589; *Philemon albitorques*, 190; *P. argenticeps*, 190; *P. brassi*, 190; *P. buceroides*, 186, 189-190; *P. citreogularis*, 188, 190; *P. cockerelli*, 186, 188, 190; *P. corniculatus*, 188, 190, 193; *P. diemenensis*, 190; *P. eichhorni*, 190; *P. fuscicapillus*, 186, 189; *P. gilolensis*, 190; *P. inornatus*, 190; *P. meyeri*, 188, 190; *P. moluccensis*, 186, 189; *P. novaeguineae*, 186-195; *P. subcorniculatus*, 186, 189; *Pycnopygius strictocephalus*, 186-195; *Zonotrichia leucophrys*, 165
 Moluccas, 187-195
Momotus mexicanus, 415
 Monarch, Spot-winged, 134
Monarcha guttula, 134
 Monroe, Burt L., Jr., Commentary: A modern concept of the subspecies, 608-609
 Morrison, Michael L., The structure of western warbler assemblages: ecomorphological analysis of the Black-throated Gray and Hermit warblers, 503-513
 Mortality and survival of nests, 75-85
 Mortality and survival of *Ajaia ajaja*, 277-278; *Ammodramus savannarum*, 158-162; *Anas platyrhynchos*, 383-384; *Junco hyemalis*, 243-257; *Larus californicus*, 626-627; *L. delawarensis*, 626-627; *L. marinus*, 61-62, 65; *Melospiza melodia*, 560; *Molothrus ater*, 318; *Passerculus sandwichensis*, 158-162; *Poocetes gramineus*, 158-162; *Spizella pusilla*, 158-162
 Morton, Martin L., see Baptista, Luis F., and ———
Morus bassanus, 34
 Moses, Richard, see Smith, James N. M., et al.
 Moss, R., and A. Watson, Heritability of egg size, hatch weight, body weight, and viability in Red Grouse (*Lagopus lagopus scoticus*), 683-686
 Motmot, Russet-crowned, 415
 Mugaas, John N., and James R. King, Annual variation of daily energy expenditure by the Black-billed Magpie: a study of thermal and behavioral energetics (rev.), 388-389
 Murphy, Mary E., and James R. King, Semi-synthetic diets as a tool for nutritional ecology, 165-167
 Murre, Common, 765-766; Thick-billed, 468-472
 Murrelet, Marbled, 778-780
 Museums, collections in, 743-744
Myiagra rubecula, 192
Myiarchus cinerascens, 260-272, 422
M. nuttingi, 415
M. semirufus, 422
M. swainsoni, 420-421, 581-582
M. tuberculifer, 415
M. tyrannulus, 260-272, 415
Myzomela adolphinae, 192
M. obscura, 192
Necorbyas edwardsi, 578-579
N. harpax, 578-579
N. rosignoli, 578-579
 Nelson, Gareth, and Norman Platnick, Systematics and biogeography. Cladistics and vicariance (rev.), 621-622; and Donn E. Rosen (eds.), Vicariance biogeography (rev.), 618-620
Nesomimus parvulus, 16, 19

- Nest and nest site, effect on hatchability, 526-534
- Nest and nest site of *Agamia agami*, 784; *Ajaia ajaia*, 277; *Catoptrophorus semipalmatus*, 90, 93-95, 98, 100; *Chondestes grammacus*, 591-592; *Crotophaga ani*, 787-788; *Deltarhynchus flammulatus*, 418-419, 421; *Eutoxeres aquila*, 172-173; *Larus californicus*, 624-625, 629; *L. delawarensis*, 328-331, 624-625, 629; *Megasceryle alcyon*, 357-358; *Mimus polyglottos*, 591-592; *Myiarchus swainsoni*, 582; *Petrochelidon pyrrhonota*, 758-761; *Pterodroma hypoleuca*, 236, 238
- Nest parasitism, 161, 294-295, 363-364, 519-524, 557, 719-723, 781-783, 787-788
- Nesting of *Ajaia ajaia*, 279-281; *Anas platyrhynchos*, 383-384; *Dumetella carolinensis*, 148-155; *Iridoprocne bicolor*, 695-699; *Junco hyemalis*, 653-654; *Melospiza melodia*, 559; *Pandion haliaetus*, 781-783
- Nettleship, D. N., see Gaston, A. J., and ———
- Nevada, 208-227
- New Brunswick, 67-75
- New Guinea, 187-195
- New Jersey, 109-114, 380-381
- New Mexico, 519-524
- New York, 316-325, 342-346, 380-381, 584-586
- New Zealand, 24-29
- Nighthawk, Lesser, 764
- Night Heron, Black-crowned, 784-786
- Niles, Lawrence G., see Hooper, Robert G., et al.
- Ninox novaeseelandiae*, 578-579
- Nolan, Val, Jr., see Ketterson, Ellen D., and ———
- North Dakota, 77-85
- Northwest Territories, 468-472, 662-665
- Norton, Mary E., Peter Arcese, and Paul W. Ewald, Effect of intrusion pressure on territory size in Black-chinned Hummingbirds (*Archilochus alexandri*), 761-764
- Norway, 767
- Núñez, Herman, see Yáñez, José L., et al.
- Nuthatch, Brown-headed, 171; Red-breasted, 366
- Nyctanassa violacea*, 380-381
- Nycticorax nycticorax*, 784-786
- Obituary of Edward Sinclair Thomas, 800
- Oceanodroma leucorhoa*, 793-796
- Ogygopteryx wetmorei*, 577-578
- Ohio, 353-361, 548-553
- Ohmart, Robert D., see Rosenberg, Kenneth V., et al.
- Oklahoma, 591-592
- Olor buccinator*, 103-107
- O. columbianus*, 106-107
- Olson, Storrs L., A new species of palm swift (*Tachornis*: Apodidae) from the Pleistocene of Puerto Rico, 230-235; see Jordan, Richard H., and ———; A critique of Cracraft's classification of birds, 733-739
- O'Neill, John P., Commentary: The subspecies concept in the 1980's, 609-612
- Ontario, 767
- Oolman, John, see Blankespoor, Gilbert W., et al.
- Oregon, 208-227, 403-412, 503-513
- Oreotrochilus chimborazo*, 376-377
- Orians, Gordon H., review by, 391-394
- Orientation (see Migration and ———)
- Oriole, Black-headed, 515-517; Northern, 260-272; Orchard, 134
- Oriolus bouroensis*, 186, 189
- O. chinensis*, 186, 188, 190
- O. flavocinctus*, 186, 188-190, 192
- O. forsteni*, 186, 189
- O. larvatus*, 188
- O. oriolus*, 186, 188
- O. phaeochromus*, 186, 189
- O. sagittatus*, 186, 188-190, 193
- O. szalayi*, 186-195
- O. viridifuscus*, 186, 189
- Ortiz-Crespo, Fernando I., and Robert Bleiweiss, The northern limit of the hummingbird genus *Oreotrochilus* in South America, 376-378
- Osprey, 781-783
- Osteology of *Asio henrici*, 578-579; *Bubo virginianus*, 578-579; *Eostrix martinellii*, 578-579; *E. mimica*, 578-579; *Necrobyas edwardsi*, 578-579; *N. harpax*, 578-579; *N. rossignoli*, 578-579; *Ninox novaeseelandiae*, 578-579; *Ogygopteryx wetmorei*, 577-578; *Protostrix leptosteus*, 578-579; *P. lydekkeri*, 578-579; *Strigogyps dubius*, 578-579
- Otus asio*, 366
- Ouellet, Henri, review by, 807-809
- Owl, Barn, 407; Barred, 366; Boreal, 365-368; Hawk, 365-368; Saw-whet, 365-368; Screech, 366; Short-eared, 407
- Oxyura dominica*, 369
- O. jamaicensis*, 369, 776-777
- Oystercatcher, 112
- Paganelli, Charles, Coues Award, 183; see Grant, Gilbert S., et al.
- Paleontology (see Fossils)
- Palila, 667-673
- Palmér, Sture, and Jeffery Boswall, The Peterson field guide to the bird songs of Britain and Europe (No. 15) (rev.), 394-396
- Pandion haliaetus*, 781-783
- Parasites (see Diseases and ———)
- Parasitism (see Nest parasitism; see also Kleptoparasitism)
- Parker, Theodore A., III, Susan Allen Parker, and Manuel A. Plenge, An annotated checklist of Peruvian birds (rev.), 818-819
- Parkes, Kenneth C., Commentary: Subspecific taxonomy: unfashionable does not mean irrelevant, 596-598
- Parmalee, Paul W., and Walter E. Klippel, Evidence of a boreal avifauna in middle Tennessee during the late Pleistocene, 365-368
- Passer domesticus*, 165, 590-591

- Passerculus sandwichensis*, 123-128, 157-163, 166
Passerella iliaca, 632-649
 Paszkowski, Cynthia A., Vegetation, ground, and frugivorous foraging of the American Robin, 701-709
Patagona gigas, 377
 Patterson, Thomas L., see Petrinovich, Lewis, and —
Pedioecetes phasianellus, 366
Pelecanus erythrorhynchos, 34
P. onocrotalus, 34
P. rufescens, 34
 Pelican, Great White, 34; Pink-backed, 34; White, 34
 Penguin, Adelie, 34; Macaroni, 386; Rockhopper, 384
Perisoreus canadensis, 365-368
 Peru, 198-206
 Pesticides (see Pollutants)
 Peters, Susan, see Marler, Peter, and —
 Petersen, Kenneth L., see Best, Louis B., and —
 Petrel, Bonin, 236-241
 Petrinovich, Lewis, and Thomas L. Patterson, The White-crowned Sparrow: stability, recruitment, and population structure in the Nuttall subspecies (1975-1980), 1-14
Petrochelidon pyrrhonota, 459-466, 758-761
 Pettit, Ted N., see Grant, Gilbert S., et al.
 Phainopepla, 495-501
Phainopepla nitens, 495-501
Phalacrocorax atriceps, 588-589
P. auritus, 347-352
P. pelagicus, 347-352
Pharomachrus mocinno, 385
Pheucticus chrysopleus, 415
Philemon albitorques, 190
P. argenteiceps, 190
P. brassi, 190
P. buceroides, 186, 189-190
P. citreogularis, 188, 190
P. cockerelli, 186, 188, 190
P. corniculatus, 188, 190, 193
P. diemenensis, 190
P. eichhorni, 190
P. fuscicapillus, 186, 189
P. gilolensis, 190
P. inornatus, 190
P. meyeri, 188, 190
P. moluccensis, 186, 189
P. novaeguineae, 186-195
P. subcorniculatus, 186, 189
 Phillips, Allan R., Commentary: Subspecies and species: fundamentals, needs, and obstacles, 612-615
Philohela minor, 366, 791-792
 Phoebe, Eastern, 366
Phoenicopterus ruber, 34
 Physiology, directional hearing ability, 403-412; eggs, 710-717; energy cost of activities, 427-428, 725-731; fasting, 299-307; fat deposition, 299-307; flight, 368-371; metabolism, 424-429, 667-673, 710-717; migration, 725-731; nutrient requirements, 165-166; osmoregulation, 710-717; temperature regulation, 303-304, 424-429, 495-501, 667-673; thermal tolerance, 303-304, 667-673; vocalizing, 474-493; water loss from eggs, 236-241, 716
 Physiology of *Agelaius phoeniceus*, 710-717; *Asio flammeus*, 407; *Bombicilla cedrorum*, 166; *Buteo jamaicensis*, 407; *Circus cyaneus*, 403-412; *Eremophila alpestris*, 714; *Falco sparverius*, 407-408; *Junco hyemalis*, 299-307; *Leucosticte tephrocotis*, 166; *Passer domesticus*, 165; *Passerculus sandwichensis*, 166; *Psaltiriparus minimus*, 424-429; *Psittirostra bailliei*, 667-673; *P. cantans*, 667-673; *Pterodroma hypoleuca*, 236-241; *Spizella arborea*, 299-307; *Streptopelia risoria*, 474-493; *Tachyeres brachypterus*, 370; *T. patagonicus*, 368-371; *T. pteners*, 370; *Tyto alba*, 407; *Zonotrichia leucophrys*, 165, 714, 725-731
Picoides borealis, 675-682
P. maharattensis, 770
P. pubescens, 767-768, 770
P. scalaris, 260-272
P. villosus, 366, 767-768, 770
Picus viridis, 769-770
 Pigeon, Passenger, 365-366
Pinguinus impennis, 167-168
Pinicola enucleator, 134, 365-368
 Pintail, 776-777
Pipilo aberti, 260-272, 719-723
P. chlorurus, 632-649
P. erythrophthalmus, 366
Piranga rubra, 260-272
 Pitelka, Frank A., Commentary: The condor case: a continuing plea for realism, 798-799; review by, 804-806
Platyspiza crassirostris, 18-19
 Plumages (see Molts and —)
Podiceps gallardoi, 168-169
P. occipitalis, 168-169
Podilymbus podiceps, 365
Poliophtila albiloris, 415
 Pollutants, 275, 282-283
 Polyandry (see Mating systems)
 Polygamy (see Mating systems)
 Polygyny (see Mating systems)
Poocetes gramineus, 123-128, 157-163
 Poole, Alan, Breeding Ospreys feed fledglings that are not their own, 781-783
 Power, Harry W., The foraging behavior of Mountain Bluebirds, with emphasis on sexual foraging differences (rev.), 387-388
 Prairie Chicken, Greater, 365-366
 Predation by *Corvus brachyrhynchos*, 158-159; *C. caurinus*, 347-352; *Haematopus palliatus*, 112; *Haliaeetus leucocephalus*, 348-349; *Larus argentatus*, 112-114; *L. atricilla*, 96-97, 112
 Predation on *Ammodramus savannarum*, 158-161; *Captotrophus semipalmatus*, 96-97; *Cephus co-*

- lumba*, 347, 349, 352; *Junco hyemalis*, 655-656, 658;
Larus glaucescens, 347, 351-352; *Passerculus sand-*
wichensis, 158-161; *Petrochelidon pyrrhonota*, 459-
 466; *Phalacrocorax auritus*, 347-352; *P. pelagicus*,
 347-352; *Poocetes gramineus*, 158-161; *Rynchops*
niger, 112; *Spizella pusilla*, 158-161; *Zenaidra mac-*
roura, 583
Protostrix leptosteus, 576-579
P. lydekkeri, 578-579
Psaltiriparus minimus, 424-429
Psittirostra bailleui, 667-673
P. cantans, 667-673
Pterodroma hypoleuca, 236-241
Ptilinopus iozonus, 192
 Puerto Rico, 230-235
Pycnopygius stricocephalus, 186-195
Pygoscelis adeliae, 34

 Québec, 778-780
 Quelea, 34
Quelea quelea, 34
 Quetzal, 385
Quiscalus mexicanus, 515-517, 519-524
Q. quiscula, 515-517

 Rahn, Hermann, Coues Award, 183; see Grant, Gil-
 bert S., et al.
 Raikow, Robert J., Monophyly of the Passeriformes:
 test of a phylogenetic hypothesis, 431-445; see
 Berman, Susan L., and —
 Rail, Black, 365; Yellow, 365-366
 Ralph, C. John, reviews by, 390-391, 621
 Ramo, Cristina, and Benjamin Busto, Notes on the
 breeding of the Chestnut-bellied Heron (*Agamia*
agami) in Venezuela, 784
Ramphocelus carbo, 134
 Redhead, 774-777
 Redpoll, Common, 382-383
 Redrapp, Elizabeth, see Shields, Gerald F., et al.
 Redstart, American, 134
 Reidinger, Russell F., see Mason, J. Russell, and
 —
 Reynard, George B., Bird songs in the Dominican
 Republic/Cantos de Aves en la Republica Do-
 minicana (rev.), 394
Rhea, 310-312
 Rhode Island, 784-786
Rhodotraupis celaeno, 787
Rhytipterna simplex, 420-422
 Rice, William R., Acoustical location of prey by the
 Marsh Hawk: adaptation to concealed prey, 403-
 413
 Rich, Pát V., Tarsometatarsus of *Protostrix* from the
 mid-Eocene of Wyoming, 576-579
 Ricklefs, Robert E., Some considerations on sibling
 competition and avian growth rates, 141-147
 Riegner, Mark F., Prey-handling in Yellow-crowned
 Night Herons, 380-381

 Riley, Laura and William, Guide to the national
 wildlife refuges (rev.), 180
 van Riper, Charles, III, see Weathers, Wesley W.,
 and —
 Ripley, S. Dillon, Search for the Spiny Babbler (rev.),
 180-181
 Robertson, Don, Rare birds of the west coast of North
 America (rev.), 389-390
 Roberts, Brian (Ed.), Edward Wilson's birds of the
 Antarctic (rev.), 401
 Robin, American, 134, 342-346, 366, 701-708
 Roché, Jean C., Birds of Venezuela (rev.), 395-396
 Rosenberg, Kenneth V., Robert D. Ohmart, and Ber-
 tin W. Anderson, Community organization of
 riparian breeding birds: response to an annual
 resource peak, 260-274
Rynchops niger, 109-114

 Sapsucker, Yellow-bellied, 767-768, 770
Sarcoramphus papa, 374
 Sauer, Edgar Gustav Franz, Memorial of, 570-572
Sayornis phoebe, 366
 Scaup, Lesser, 776-777
 Scotland, 683-686
 Sealy, Spencer G., see Biermann, Gloria C., and
 —; Harry R. Carter, and Delise Alison, Oc-
 currence of the Asiatic Marbled Murrelet [*Bra-*
chyramphus marmoratus perdix (Pallas)] in North
 America, 778-781
Setophaga ruticilla, 134
 Severinghaus, William D., Commentary: The condor
 case: a rallying cry!, 797-798
 Seymour, Norman R., Mortality of duckling attrib-
 uted to separation from mother and subsequent
 protracted exposure to low ambient tempera-
 ture, 383-384
 Shag, Blue-eyed, 588-589
 Shedd, Douglas H., Seasonal variation and function
 of mobbing and related antipredator behaviors
 of the American Robin (*Turdus migratorius*), 342-
 346
 Shields, Gerald F., Gordon H. Jarrell, and Elizabeth
 Redrapp, Enlarged sex chromosomes of wood-
 peckers (Piciformes), 767-771
 Short, L. L., review by, 176
 Shoveler, Northern, 776-777
 Sibley, Charles G., and Jon E. Ahlquist, The rela-
 tionships of the Hawaiian honeycreepers (Dre-
 paninini) as indicated by DNA-DNA hybridiza-
 tion, 130-140
 Sicklebill, White-tipped, 172-173
 Simms, Eric, British thrushes (rev.), 177
 Siskin, Eurasian, 134; Pine, 366
Sitta canadensis, 366
S. pusilla, 171
 Skaar, P. D., Montana bird distribution: 2nd edition
 (rev.), 179-180
 Skimmer, Black, 109-114
 Smith, James N. M., Yoram Yom-Tov, and Richard

- Moses, Polygyny, male parental care, and sex ratio in Song Sparrows: an experimental study, 555-564
- Smith, Kimberly G., and Douglas C. Andersen, Food, predation, and reproductive ecology of the Dark-eyed Junco in northern Utah, 650-661
- Smith, Thomas Bates, and Stanley A. Temple, feeding habits and bill polymorphism in Hook-billed Kites, 197-207
- Snipe, Common, 366
- Somateria fischeri*, 369
- S. mollissima*, 369
- S. spectabilis*, 369
- Song (see Vocalizations)
- Sonograms of *Agelaius phoeniceus*, 585; *Amphispiza belli*, 211, 214-215; *Calidris alpina*, 772; *Deltarhynchus flammulatus*, 416-417; *Melospiza georgiana*, 448; *Mimus polyglottos*, 585; *Streptopelia risoria*, 479; *Zonotrichia leucophrys*, 539, 541, 543-544
- Sopuck, Lennart G., see Hannon, Susan J., et al.
- South Africa, 188
- South Carolina, 243-257, 675-682
- South Dakota, 363-364
- Southern, Linda K., and William E. Southern, Effect of habitat decimation on Ring-billed Gull colony- and nest-site tenacity, 328-331
- Southern, William E., Editor of Reviews, 616-622, 796-814; see Southern, Linda K., and —
- Sparrow, Bachman's, 633-636, 641; Field, 157-163; Fox, 632-649; Golden-crowned, 632-649; Grasshopper, 157-163; Harris', 632-649; House, 165, 590-591; Lark, 591-592; Lincoln's, 134, 632-649; Olive, 415; Rufous-collared, 632-649; Sage, 208-227, 788-791; Savannah, 157-163, 166; Song, 260-272, 555-563, 632-649; Swamp, 446-457, 632-649; Tree, 299-307; Vesper, 157-163; White-crowned, 1-12, 165, 537-545, 632-649, 714, 725-731; White-throated, 366, 632-649
- Sphecotheres vieilloti*, 192
- Sphyrapicus varius*, 767-768, 770
- Spinus tristis*, 134
- Spiza americana*, 292-297
- Spizella arborea*, 299-307
- S. breweri*, 123-128
- S. passerina*, 123-128
- S. pusilla*, 157-163
- Spoonbill, Roseate, 275-283
- Starling, Common, 134
- Steamer-Duck, Flying, 368-371
- Steiner, Charles, and Richard Davis, Caged bird medicine—selected topics (rev.), 398-399
- Stercorarius parasiticus*, 34
- Sterna hirundo*, 67-75
- S. paradisaea*, 34, 67-75
- Stiles, F. Gary, and Larry L. Wolf, Ecology and evolution of lek mating behavior in the Long-tailed Hermit Hummingbird (rev.), 804-806
- Storer, Robert W., A hybrid between the Hooded and Silver grebes (*Podiceps gallardoi* and *P. occipitalis*), 168-169; Commentary: Subspecies and the study of geographic variation, 599-601
- Stork, Marabou, 34
- Storm-Petrel, Leach's, 793-796
- Strait, Kenneth A., see Wray, Thomas, II, et al.
- Streptopelia risoria*, 474-493
- Stirgogyps dubius*, 578-579
- Strix varia*, 366
- Struthio*, 310-312
- Stuebe, Miki M., and Ellen D. Ketterson, A study of fasting in Tree Sparrows (*Spizella arborea*) and Dark-eyed Juncos (*Junco hyemalis*): ecological implications, 299-308
- Sturnella* sp., 366
- S. magna*, 515-517
- Sturnus vulgaris*, 134
- Sula sula*, 34
- Sunda Islands, 187-195
- Suriname, 581-582
- Surnia ulula*, 365-368
- Swallow, Barn, 519-524; Cliff, 459-466, 758-761; Tree, 695-699
- Swan, Mute, 106; Trumpeter, 103-107; Whistling, 106-107
- Swift, Chimney, 366
- Sylvia borin*, 134
- Tachornis uranocetes*, 230-235
- Tachyeres brachypterus*, 370
- T. patachonicus*, 368-371
- T. pteneres*, 370
- Tanager, Palm, 134; Scrub, 134; Silver-beaked, 134; Summer, 260-272; Yellow-throated, 134
- Tangara vitriolina*, 134
- Taxonomy of *Agelaius phoeniceus*, 514-517; *Aves*, 733-739; *Chondrohierax uncinatus*, 203, 206; *Colinus leucocephalus*, 55; *C. striatus*, 55; *Deltarhynchus flammulatus*, 421-422; *Himatione sanguinea*, 130-138; *Icterus graduacauda*, 514-517; *Junco hyemalis*, 636, 638-644; *Lechusa stirtoni*, 580-581; *Melospiza georgiana*, 636, 638-644; *M. lincolni*, 636, 638-644; *M. melodia*, 636, 638-644; *Molothrus ater*, 514-517; *Oceanodroma leucorhoa*, 793-796; *Olor buccinator*, 106-107; *Passerella iliaca*, 636, 638-644; *Passeriformes*, 431-444; *Pipilo chlorurus*, 636, 638-644; *Prostrix leptosteus*, 578; *Quiscalus mexicanus*, 514-517; *Q. quiscula*, 514-517; *Sturnella magna*, 514-517; *Tachornis uranocetes*, 231; *Vestiaria coccinea*, 130-138; *Viridonia virens*, 130-138; *Zonotrichia albicollis*, 636, 638-644; *Z. atricapilla*, 636, 638-644; *Z. capensis*, 636, 638-644; *Z. leucophrys*, 636, 638-644; *Z. querula*, 636, 638-644
- Teal, Blue-winged, 75-85; Green-winged, 776-777
- Temple, Stanley A., see Smith, Thomas Bates, and —
- Tennessee, 365-368
- Tern, Arctic, 34, 67-75; Common, 67-75

- Terres, John K., *The Audubon Society encyclopedia of North American birds* (rev.), 616-617
- Territory of *Archilochus alexandri*, 761-763; *Catoptrophorus semipalmatus*, 90-91, 93-95, 98, 100; *Crotophaga ani*, 787-788; *Dendragapus obscurus*, 687-692; *Larus marinus*, 58-65; *Megasceryle alcyon*, 353-361; *Melospiza melodia*, 557-563; *Mimus polyglottos*, 584-586; *Molothrus ater*, 316-325; *Picoides borealis*, 675-682; *Zonotrichia leucophrys*, 1-12
- Texas, 198, 275-283, 774-777, 787
- Thomas, Edward Sinclair, obituary of, 800
- Thompson, Edward L., see Carey, Cynthia, et al.
- Thrasher, Crissal, 719-723
- Thraupis palmarum*, 134
- Thryothorus pleurostictus*, 415
- Tierra del Fuego, 368-371
- Tinamou, Thicket, 415
- Tirrell, Paul C., see Volkman, Nicholas J., et al.
- Towhee, Abert's 260-272, 719-723; Green-tailed, 632-649; Rufous-sided, 366
- Toxostoma dorsale*, 719-723
- Trautman, Milton B., Obituary of Edward Sinclair Thomas, 800
- Trivelpiece, Wayne Z., see Volkman, Nicholas J. et al.
- Trudus migratorius*, 134, 342-346, 366, 701-708
- Tympanuchus cupido*, 365-366
- Tyrannus tyrannus*, 420-421
- Tyto alba*, 407, 580-581
- Uria aalge*, 765-766
- U. lomvia*, 468-472
- Utah, 650-659
- Uthe, Craig, see Blankespoor, Gilbert W., et al.
- Vanden Berge, James C., Notes on the myology of the pelvic limb in kiwi (*Apteryx*) and in other birds, 309-315
- Vaurie, Charles, Taxonomy and geographical distribution of the Furnariidae (Aves, Passeriformes) (rev.), 810-813
- Venezuela, 784
- Verbeek, Nicolaas A., Egg predation by Northwestern Crows: its association with human and Bald Eagle activity, 347-352
- Verdin, 260-272
- Vestiaria coccinea*, 130-138
- Vigle, Gregory O., A nest of *Eutoxeres aquila* in western Ecuador, 172-173
- Vireo, Red-eyed, 134
- Vireo olivaceus*, 134
- Virginia, 88-101
- Viridonia virens*, 130-138
- Vleck, Carol M., see Carey, Cynthia, et al.
- Vocalizations, effect on censusing, 788-791; ontogeny of, 446-457; sexual differences in, 542-545
- Vocalizations of *Agelaius phoeniceus*, 584-586; *Aix sponsa*, 118; *Amphispiza belli*, 208-227, 788-791; *Calidris alpina*, 771-773; *Deltarhynchus flammulatus*, 416-418; *Dendragapus obscurus*, 690-691; *Dendroica nigrescens*, 505-506; *D. occidentalis*, 505-506; hybrids of *Ficedula albicollis* × *F. hypoleuca*, 289; *Larus bulleri*, 25-28; *Melospiza georgiana*, 446-457; *Mimus polyglottos*, 584-586; *Oceanodroma leucorhoa*, 793-796; *Passer domesticus*, 590-591; *Rhodothraupis celaeno*, 787; *Streptopelia risoria*, 474-493; *Zonotrichia leucophrys*, 2, 537-545
- Volkman, Nicholas J., Wayne Z. Trivelpiece, Neil P. Bernstein, and Paul C. Tirrell, Commentary: Macaroni Penguins: comment on mistaken King George Island breeding record and southerly range extension, 386
- Vuilleumier, François, reviews by, 400, 401, 801-804, 818-819
- Vulture, Black, 374-375; King, 374; Lesser Yellow-headed, 372-375; Turkey, 372-375
- Vyse, E. R., see Barrett, Victoria A., and —
- Walsberg, Glenn E., Coat color, solar heat gain, and conspicuousness in the Phainopepla, 495-502
- Warbler, Black-throated Gray, 503-513; Fan-tailed, 415; Garden, 134; Hermit, 503-513; Rufous-capped, 134; Yellow, 332-340
- Washington, 623-630, 711-717
- Watson, A., see Moss, R., and —
- Waxwing, Cedar, 166
- Weather, influence on (see Environment, influence on)
- Weathers, Wesley W., review by, 388-389; and Charles van Riper, III, Temperature regulation in two endangered Hawaiian honeycreepers: the Palila (*Psittirostra bailliei*) and the Laysan Finch (*Psittirostra cantans*), 667-674
- Webber, Thomas A., reviews by, 394-396
- Weights and measurements of *Agelaius phoeniceus*, 712; *Ajaia ajaja*, 280-281; *Anas acuta*, 776-777; *A. americana*, 776-777; *A. clypeata*, 776-777; *A. crecca*, 776-777; *A. fulvigula*, 776-777; *A. strepera*, 776-777; *Asio henrici*, 578-579; *Auriparus flaviceps*, 267; *Aythya affinis*, 369, 776-777; *A. americana*, 775-777; *A. collaris*, 369; *A. ferina*, 369; *A. fuligula*, 369; *A. marila*, 369; *A. nyroca*, 369; *A. valisineria*, 369, 776-777; *Brachyramphus brevirostris*, 779; *B. marmoratus*, 779; *Bubo virginianus*, 578-579; *Bucephala albeola*, 369, 776-777; *B. clangula*, 369, 776-777; *Cactospiza pallida*, 18; *Calypte anna*, 574-575; *Camarhynchus parvulus*, 18; *Cathartes aura*, 373; *C. burrovianus*, 374; *Certhidea olivacea*, 18; *Chen caerulescens*, 662; *Chondestes cinereus*, 200-201, 203; *Clangula hyemalis*, 369; *Coccyzus americanus*, 267; *Colaptes auratus*, 267; *Dendroica nigrescens*, 505-506; *D. occidentalis*, 505-506; *Eostrix martinelli*, 578-579; *E. mimica*, 578-579; *Eremophila alpestris*, 714; *Geospiza cinerosa*, 18; *G. difficilis*, 18; *G. fortis*, 18; *G. fuliginosa*, 18; *G. magnirostris*, 18; *G. scandens*, 18; *Geothlypis trichas*, 267; *Guiraca caerulea*, 267; hybrid of *Podiceps gallardoi* × *P. occipitalis*, 169;

- Icterus galbula*, 267; *Iridoprocne bicolor*, 696-697; *Junco hyemalis*, 301, 304, 306, 654; *Leucusa stirtoni*, 580-581; *Lophodytes cucullatus*, 369; *Melanerpes uropygialis*, 267; *Melanitta fusca*, 369; *M. nigra*, 369; *M. perspicillata*, 369; *Melospiza melodia*, 267; *Mergus albellus*, 369; *M. merganser*, 369; *M. serrator*, 369; *Milvago chimango*, 171; *Molothrus ater*, 721; *Myiarchus cinerascens*, 267; *M. tyrannulus*, 267; *Necrobyas edwardsi*, 578-579; *N. harpax*, 578-579; *N. rossignoli*, 578-579; *Ninox novaeseelandiae*, 578-579; *Nyctanassa violacea*, 380; *Oxyura dominica*, 369; *O. jamaicensis*, 369, 776-777; *Picoides scalaris*, 267; *Pipilo aberti*, 267, 721; *Piranga rubra*, 267; *Platyspiza crassirostris*, 18; *Podiceps gallardoi*, 169; *P. occipitalis*, 169; *Prototrix leptosteus*, 578-579; *P. lydekkeri*, 578-579; *Psaltirparus minimus*, 427-428; *Pterodroma hypoleuca*, 237-239; *Somateria fischeri*, 369; *S. mollissima*, 369; *S. spectabilis*, 369; *Spizella arborea*, 301, 304, 306; *Strigogyps dubius*, 578-579; *Tachornis uranocetes*, 231, 234; *Tachyeres patachonicus*, 369; *Toxostoma dorsale*, 721; *Tyto alba*, 580-581; *Zonotrichia leucophrys*, 714, 727
- West Virginia, 157-163
- White, Calyton M., review by, 815-818
- White, Donald H., Christine A. Mitchell, and Eugene Cromartie, Nesting ecology of Roseate Spoonbills at Nueces Bay, Texas, 275-284
- Whitmore, Robert C., see Wray, Thomas, II, et al.
- Whittemore, Margaret, Chimney Swifts and their relatives (rev.), 181
- Whittow, G. Causey, see Grant, Gilbert S., et al.
- Wickler, Wolfgang, Immanuel Kant and the song of the House Sparrow, 590-591
- Wiens, John A., Song pattern variation in the Sage Sparrow (*Amphispiza belli*): dialects or epiphenomena, 208-229; reviews by, 174-175, 179-180, 399, 401
- Wigeon, American, 776-777
- Wilkinson, Gerald S., and Gregory M. English-Loeb, Predation and coloniality in Cliff Swallows (*Petrochelidon pyrrhonota*), 459-467
- Willet, 88-101
- Williams, William A., see Ewald, Paul W., and —
- Wilson, Barry W., Ed., Birds. Readings from Scientific American (rev.), 179
- Wisconsin, 701-708
- Wong, Marina, reviews by, 396-398, 806-807
- Wood, D. Scott, see Zusi, Richard L., et al.
- Wood, Gene W., see Hooper, Robert G., et al.
- Woodcock, American, 366, 791-792
- Woodpecker, Acorn, 527-528; Black, 767, 769-770; Downy, 767-768, 770; Gila, 260-272; Greater Spotted, 767-770; Green, 769-770; Hairly, 366, 767-768, 770; Ladder-backed, 260-272; Lesser Spotted, 767-770; Red-bellied, 366; Red-cockaded, 675-682
- Wray, Thomas, II, Kenneth A. Strait, and Robert C. Whitmore, Reproductive success of grassland sparrows on a reclaimed surface mine in West Virginia, 157-164
- Wren, Banded, 415
- Wright, E. N., I. R. Inglis, and C. J. Feare, Eds. Bird problems in agriculture (rev.), 174-175
- Wyllie, Ian, The cuckoo (rev.), 809-810
- Wyoming, 576-579
- Yáñez, José L., Herman Núñez, and Fabian M. Jakšić, Food habits and weight of Chimango Caracaras in central Chile, 170-171
- Yellowthroat, Common, 134, 260-272
- Yom-Tov, Yoram, see Smith, James N. M., et al.
- Zach, Reto, Hatching asynchrony, egg size, growth, and fledging in Tree Swallows, 695-700
- Zenaida galapagoensis, 16, 19, 22
- Z. macroura, 583
- Zimmerman, John L., Nesting success of Dickcissels (*Spiza americana*) in preferred and less preferred habitats, 292-298
- Zink, Robert M., Patterns of genic and morphologic variation among sparrows in the genera *Zonotrichia*, *Melospiza*, *Junco*, and *Passerella*, 632-649
- Zonotrichia albicollis*, 366, 632-649
- Z. atricapilla*, 632-649
- Z. capensis*, 632-649
- Z. leucophrys*, 1-12, 123-128, 165, 537-545, 632-649, 714, 725-731
- Z. querula*, 632-649
- Zusi, Richard L., Commentary: Intraspecific geographic variation and the subspecies concept, 606-608; D. Scott Wood, and Marion Anne Jenkinson, Remarks on a world-wide inventory of avian anatomical specimens, 740-757
- Zwickel, Fred C., see Hannon, Susan J., et al.

the 1990s, the number of people in the world who are undernourished has increased from 600 million to 800 million. The number of people who are malnourished has increased from 1.2 billion to 1.5 billion. The number of people who are obese has increased from 100 million to 300 million.

The World Bank has estimated that the number of people who are undernourished in the world will increase from 800 million in 1990 to 1.2 billion in 2020. The number of people who are malnourished will increase from 1.5 billion in 1990 to 2.2 billion in 2020. The number of people who are obese will increase from 300 million in 1990 to 600 million in 2020.

The World Bank has also estimated that the number of people who are undernourished in the world will increase from 800 million in 1990 to 1.2 billion in 2020. The number of people who are malnourished will increase from 1.5 billion in 1990 to 2.2 billion in 2020. The number of people who are obese will increase from 300 million in 1990 to 600 million in 2020.

The World Bank has also estimated that the number of people who are undernourished in the world will increase from 800 million in 1990 to 1.2 billion in 2020. The number of people who are malnourished will increase from 1.5 billion in 1990 to 2.2 billion in 2020. The number of people who are obese will increase from 300 million in 1990 to 600 million in 2020.

The World Bank has also estimated that the number of people who are undernourished in the world will increase from 800 million in 1990 to 1.2 billion in 2020. The number of people who are malnourished will increase from 1.5 billion in 1990 to 2.2 billion in 2020. The number of people who are obese will increase from 300 million in 1990 to 600 million in 2020.

The World Bank has also estimated that the number of people who are undernourished in the world will increase from 800 million in 1990 to 1.2 billion in 2020. The number of people who are malnourished will increase from 1.5 billion in 1990 to 2.2 billion in 2020. The number of people who are obese will increase from 300 million in 1990 to 600 million in 2020.

The World Bank has also estimated that the number of people who are undernourished in the world will increase from 800 million in 1990 to 1.2 billion in 2020. The number of people who are malnourished will increase from 1.5 billion in 1990 to 2.2 billion in 2020. The number of people who are obese will increase from 300 million in 1990 to 600 million in 2020.

The World Bank has also estimated that the number of people who are undernourished in the world will increase from 800 million in 1990 to 1.2 billion in 2020. The number of people who are malnourished will increase from 1.5 billion in 1990 to 2.2 billion in 2020. The number of people who are obese will increase from 300 million in 1990 to 600 million in 2020.

CONTENTS OF VOLUME 99

NUMBER 1

THE WHITE-CROWNED SPARROW: STABILITY, RECRUITMENT, AND POPULATION STRUCTURE IN THE NUTALL SUBSPECIES (1975-1980). <i>Lewis Petrinovich and Thomas L. Patterson</i>	1
VARIATION IN THE SIZE AND SHAPE OF DARWIN'S FINCH EGGS. <i>P. R. Grant</i>	15
FORAGING-FLÖCK RECRUITMENT AT A BLACK-BILLED GULL COLONY: IMPLICATIONS FOR THE INFORMATION CENTER HYPOTHESIS. <i>Roger M. Evans</i>	24
HOW IMPORTANT ARE BIRD COLONIES AS INFORMATION CENTERS? <i>Range D. Bayer</i>	31
THE HINDLIMB MUSCULATURE OF THE MOUSEBIRDS (COLIIFORMES). <i>Susan L. Berman and Robert J. Raikow</i>	41
TERRITORIALITY AND BEHAVIORAL CORRELATES OF REPRODUCTIVE SUCCESS OF GREAT BLACK-BACKED GULLS. <i>Ronald G. Butler and Saskia Janes-Butler</i>	58
FEEDING ECOLOGY OF NONBREEDING POPULATIONS OF LARIDS OFF DEER ISLAND, NEW BRUNSWICK. <i>B. M. Braune and D. E. Gaskin</i>	67
VARIABILITY IN NEST SURVIVAL RATES AND IMPLICATIONS TO NESTING STUDIES. <i>A. T. Klett and Douglas H. Johnson</i>	77
SOCIAL ORGANIZATION IN A NESTING POPULATION OF EASTERN WILLETS (<i>Catoptrophorus semipalmatus</i>). <i>Marshall A. Howe</i>	88
COMPARATIVE GENETICS OF THREE TRUMPETER SWAN POPULATIONS. <i>Victoria A. Barrett and E. R. Vyse</i>	103
THE ROLE OF REPRODUCTIVE SUCCESS IN COLONY-SITE SELECTION AND ABANDONMENT IN BLACK SKIMMERS (<i>Rynchops niger</i>). <i>Joanna Burger</i>	109
WOOD DUCK DISPLAYS AND PAIRING CHRONOLOGY. <i>Judith Scherpelz Armbruster</i>	116
SUMMER RAINFALL AND WINTER SPARROW DENSITIES: A TEST OF THE FOOD LIMITATION HYPOTHESIS. <i>John B. Dunning, Jr. and James H. Brown</i>	123
THE RELATIONSHIPS OF THE HAWAIIAN HONEYCREEPERS (DREPANININI) AS INDICATED BY DNA-DNA HYBRIDIZATION. <i>Charles G. Sibley and Jon E. Ahlquist</i>	130
SOME CONSIDERATIONS ON SIBLING COMPETITION AND AVIAN GROWTH RATES. <i>Robert E. Ricklefs</i>	141
FACTORS AFFECTING FEEDING AND BROODING OF GRAY CATBIRD NESTLINGS. <i>Ellen J. Johnson and Louis B. Best</i>	148
REPRODUCTIVE SUCCESS OF GRASSLAND SPARROWS ON A RECLAIMED SURFACE MINE IN WEST VIRGINIA. <i>Thomas Wray, II, Kenneth A. Strait, and Robert C. Whitmore</i>	157
SHORT COMMUNICATIONS	
Semi-Synthetic Diets as a Tool for Nutritional Ecology. <i>Mary E. Murphy and James R. King</i>	165
First Record of the Great Auk (<i>Pinguinus impennis</i>) from Labrador. <i>Richard H. Jordan and Storrs L. Olson</i>	167
A Hybrid between the Hooded and Silver Grebes (<i>Podiceps gallardoi</i> and <i>P. occipitalis</i>). <i>Robert W. Storer</i>	168
Food Habits and Weight of Chimango Caracaras in Central Chile. <i>José L. Yáñez, Herman Núñez, and Fabian M. Jaksic</i>	170
Reciprocal Allopreening in the Brown-headed Nuthatch. <i>D. Bruce Barbour and Anthony R. DeGange</i>	171
A Nest of <i>Eutoxeres aquila heterura</i> in Western Ecuador. <i>Gregory O. Vigle</i>	172
REVIEWS	174
BREWSTER AND COUES AWARDS	182
NOTES AND NEWS	30, 122, 164
NOTICE TO AUTHORS	108
INFORMATION FOR CONTRIBUTORS TO <i>The Auk</i>	184

NUMBER 2

MIMICRY OF FRIARBIRDS BY ORIOLES. <i>Jared M. Diamond</i>	187
FEEDING HABITS AND BILL POLYMORPHISM IN HOOK-BILLED KITES. <i>Thomas Bates Smith and Stanley A. Temple</i>	197

SONG PATTERN VARIATION IN THE SAGE SPARROW (<i>Amphispiza belli</i>): DIALECTS OR EPIPHENOMENA? John A. Wiens	208
A NEW SPECIES OF PALM SWIFT (<i>Tachornis</i> : APODIDAE) FROM THE PLEISTOCENE OF PUERTO RICO. Storrs L. Olson	230
REGULATION OF WATER LOSS FROM BONIN PETREL (<i>Pterodroma hypoleuca</i>) EGGS. Gilbert S. Grant, Ted N. Pettit, Hermann Rahn, G. Causey Whittow, and Charles V. Paganelli	236
THE ROLE OF MIGRATION AND WINTER MORTALITY IN THE LIFE HISTORY OF A TEMPERATE-ZONE MIGRANT, THE DARK-EYED JUNCO, AS DETERMINED FROM DEMOGRAPHIC ANALYSES OF WINTER POPULATIONS. Ellen D. Ketterson and Val Nolan Jr.	243
COMMUNITY ORGANIZATION OF RIPARIAN BREEDING BIRDS: RESPONSE TO AN ANNUAL RESOURCE PEAK. Kenneth V. Rosenberg, Robert D. Ohmart, and Bertin W. Anderson	260
NESTING ECOLOGY OF ROSEATE SPOONBILLS AT NUECES BAY, TEXAS. Donald H. White, Christine A. Mitchell, and Eugene Cromartie	275
HYBRIDIZATION AND BREEDING SUCCESS OF COLLARED AND PIED FLYCATCHERS ON THE ISLAND OF GOTLAND. Rauno V. Alatalo, Lars Gustafsson, and Arne Lundberg	285
NESTING SUCCESS OF DICKCISSELS (<i>Spiza americana</i>) IN PREFERRED AND LESS PREFERRED HABITATS. John L. Zimmerman	292
A STUDY OF FASTING IN TREE SPARROWS (<i>Spizella arborea</i>) AND DARK-EYED JUNCOS (<i>Junco hyemalis</i>): ECOLOGICAL IMPLICATIONS. Miki M. Stuebe and Ellen D. Ketterson	299
NOTES ON THE MYOLOGY OF THE PELVIC LIMB IN KIWI (<i>Apteryx</i>) AND IN OTHER BIRDS. James C. Vanden Berge	309
MOVEMENTS AND ACTIVITIES OF RADIO-TRACKED BROWN-HEADED COWBIRDS. Alfred M. Dufty, Jr.	316
EFFECT OF HABITAT DECIMATION ON RING-BILLED GULL COLONY- AND NEST-SITE TENACITY. Linda K. Southern and William E. Southern	328
PARENTAL FEEDING OF NESTLING YELLOW WARBLERS IN RELATION TO BROOD SIZE AND PREY AVAILABILITY. Gloria C. Biermann and Spencer G. Sealy	332
SEASONAL VARIATION AND FUNCTION OF MOBBING AND RELATED ANTIPREDATOR BEHAVIORS OF THE AMERICAN ROBIN (<i>Turdus migratorius</i>). Douglas H. Shedd	342
EGG PREDATION BY NORTHWESTERN CROWS: ITS ASSOCIATION WITH HUMAN AND BALD EAGLE ACTIVITY. Nicolaas A. M. Verbeek	347
TERRITORY SIZE IN <i>Megasceryle alcyon</i> ALONG A STREAM HABITAT. William James Davis	353
SHORT COMMUNICATIONS	
Eggshell Strength and Cowbird Parasitism of Red-winged Blackbirds. Gilbert W. Blankespoor, John Oolman, and Craig Uthe	363
Evidence of a Boreal Avifauna in Middle Tennessee during the Late Pleistocene. Paul W. Parmelee and Walter E. Klippel	365
Flightlessness in Flying Steamer-Ducks. Philip S. Humphrey and Bradley C. Livezey	368
Observations on Migratory Turkey Vultures and Lesser Yellow-headed Vultures in Northern Colombia. Friedemann Koester	372
The Northern Limit of the Hummingbird Genus <i>Oreotrochilus</i> in South America. Fernando I. Ortiz-Crespo and Robert Bleiweiss	376
Differential Occurrence of Yearling and Adult Male Gadwalls in Pair Bonds. Robert J. Blohm	378
Prey Handling in Yellow-crowned Night Herons. Mark F. Riegner	380
Synchronous Fluctuations in Christmas Bird Counts of Common Redpolls and Pilon Jays. Carl E. Bock	382
Mortality of Duckling Attributed to Separation from Mother and Subsequent Protracted Exposure to Low Ambient Temperature. Norman R. Seymour	383
Rockhopper Penguin (<i>Eudyptes chrysocome</i>) Record at Palmer Station, Antarctica. Kathryn Matthew	384
Distribution of the Quetzal in Honduras. Donald A. Hanson	385
COMMENTARY	
Macaroni Penguins: Comment on Mistaken King George Island Breeding Record and Southerly Range Extension. Nicholas J. Volkman, Wayne Z. Trivelpiece, Neil P. Bernstein, and Paul C. Tirrell	386
BOOK REVIEWS	387
NOTES AND NEWS	242, 259, 291, 315, 327, 386

NUMBER 3

ACOUSTICAL LOCATION OF PREY BY THE MARSH HAWK: ADAPTATION TO CONCEALED PREY. William R. Rice	403
BEHAVIOR, MORPHOLOGY, AND SYSTEMATICS OF THE FLAMMULATED FLYCATCHER OF MÉXICO. Wesley E. Lanyon	414
THE ENERGETIC SIGNIFICANCE OF HUDDLING BEHAVIOR IN COMMON BUSHTITS (<i>Psaltirparus minimus</i>). Susan B. Chaplin	424
MONOPHYLY OF THE PASSERIFORMES: TEST OF A PHYLOGENETIC HYPOTHESIS. Robert J. Raikow	431
STRUCTURAL CHANGES IN SONG ONTOGENY IN THE SWAMP SPARROW <i>Melospiza georgiana</i> . Peter Marler and Susan Peters	446
PREDATION AND COLONIALITY IN CLIFF SWALLOWS (<i>Petrochelidon pyrrhonota</i>). Gerald S. Wilkinson and Gregory M. English-Loeb	459
FACTORS DETERMINING SEASONAL CHANGES IN ATTENDANCE AT COLONIES OF THE THICK-BILLED MURRE <i>Uria lomvia</i> . A. J. Gaston and D. N. Nettleship	468
SYRINGEAL MECHANICS REASSESSED: EVIDENCE FROM <i>Streptopelia</i> . Abbot S. Gaunt, Sandra L. L. Gaunt, and Richard M. Casey	474
COAT COLOR, SOLAR HEAT GAIN, AND CONSPICUOUSNESS IN THE PHAINOPEPLA. Glenn E. Walsberg	495
THE STRUCTURE OF WESTERN WARBLER ASSEMBLAGES: ECOMORPHOLOGICAL ANALYSIS OF THE BLACK-THROATED GRAY AND HERMIT WARBLERS. Michael L. Morrison	503
KARYOTYPES OF SIX SPECIES OF NORTH AMERICAN BLACKBIRDS (ICTERIDAE: PASSERIFORMES). Holly H. Hobart, Scott J. Gunn, and John W. Bickham	514
A TEST FOR CONSPECIFIC EGG DISCRIMINATION IN THREE SPECIES OF COLONIAL PASSERINE BIRDS. Glen A. Lanier, Jr.	519
ECOLOGICAL AND SOCIAL FACTORS AFFECTING HATCHABILITY OF EGGS. Walter D. Koenig	526
SONG DIALECTS AND MATE SELECTION IN MONTANE WHITE-CROWNED SPARROWS. Luis F. Baptista and Martin L. Morton	537
OBSERVATIONAL LEARNING OF FOOD AVERSIONS IN RED-WINGED BLACKBIRDS (<i>Agelaius phoeniceus</i>). J. Russell Mason and Russell F. Reidinger	548
POLYGyny, MALE PARENTAL CARE, AND SEX RATIO IN SONG SPARROWS: AN EXPERIMENTAL STUDY. James N. M. Smith, Yoram Yom-Tov, and Richard Moses	555
SHELL-DROPPING BEHAVIOR OF WESTERN GULLS (<i>Larus occidentalis</i>). John L. Maron	565
IN MEMORIAM: EDGAR GUSTAV FRANZ SAUER. Oliver L. Austin, Jr.	570
SHORT COMMUNICATIONS	
Function of the Bill and Tongue in Nectar Uptake by Hummingbirds. Paul W. Ewald and William A. Williams	573
Tarsometatarsus of <i>Protostrix</i> from the Mid-Eocene of Wyoming. Pat V. Rich	576
A Reevaluation of the Pliocene Owl <i>Lechusa stirtoni</i> Miller. Robert M. Chandler	580
Evidence for Wintering and Resident Populations of Swainson's Flycatcher (<i>Myiarchus swainsoni</i>) in Northern Suriname. Wesley E. Lanyon	581
Radio-instrumented Mourning Dove Preyed upon by Gray Rat Snake. R. E. Mirarchi and R. R. Hitchcock	583
Aggressive Response of Red-winged Blackbirds to Mockingbird Song Imitation. Eliot A. Brenowitz	584
Reproductive Synchrony and Predator Satiation: An Analogy Between the Darling Effect in Birds and Mast Fruiting in Plants. Michael Gochfeld	586
Absence of Wing-spreading Behavior in the Antarctic Blue-eyed Shag (<i>Phalacrocorax atriceps bransfieldensis</i>). Neil P. Bernstein and Stephen J. Maxson	588
Immanuel Kant and the Song of the House Sparrow. Wolfgang Wickler	590
Nest-sharing by a Lark Sparrow. Diana K. Crowell, Charles C. Carpenter, and David G. Huffman	591
COMMENTARY	
Forum: Avian Subspecies in the 1980's	593
Of What Use Are Subspecies? Ernst Mayr	593
Subspecific Taxonomy: Unfashionable Does Not Mean Irrelevant. Kenneth C. Parkes	596
Might There Be a Resurrection of the Subspecies? Frank B. Gill	598
Subspecies and the Study of Geographic Variation. Robert W. Storer	599
Geographic Variation, Predictiveness, and Subspecies. George F. Barrowclough	601
The Subspecies Concept: Then, Now, and Always. Wesley E. Lanyon	603

Retain Subspecies—At Least for the Time Being. Ned K. Johnson	605
Intraspecific Geographic Variation and the Subspecies Concept. Richard L. Zusi	606
A Modern Concept of the Subspecies. Burt L. Monroe, Jr.	608
The Subspecies Concept in the 1980's. John P. O'Neill	609
Subspecies and Species: Fundamentals, Needs, and Obstacles. Allan R. Phillips	612
REVIEWS. Edited by William E. Southern	616
NOTES AND NEWS	458, 473

NUMBER 4

MOUNT ST. HELENS ASH: ITS IMPACT ON BREEDING RING-BILLED AND CALIFORNIA GULLS. James L. Hayward, Don E. Miller, and Calvin R. Hill	623
PATTERNS OF GENIC AND MORPHOLOGIC VARIATIONS AMONG SPARROWS IN THE GENERA <i>Zonotrichia</i> , <i>Melospiza</i> , <i>Junco</i> , and <i>Passerella</i> . Robert M. Zink	632
FOOD, PREDATION, AND REPRODUCTIVE ECOLOGY OF THE DARK-EYED JUNCO IN NORTHERN UTAH. Kimberly G. Smith and Douglas C. Andersen	650
SEX RATIO VARIES WITH EGG SEQUENCE IN LESSER SNOW GESE. C. Davison Ankney	662
TEMPERATURE REGULATION IN TWO ENDANGERED HAWAIIAN HONEYCREEPERS: THE PALILA (<i>Psittirostra bailleui</i>) AND THE LAYSAN FINCH (<i>Psittirostra cantans</i>). Wesley W. Weathers and Charles van Riper, III	667
HOME RANGES OF RED-CKADED WOODPECKERS IN COASTAL SOUTH CAROLINA. Robert G. Hooper, Lawrence J. Niles, Richard F. Harlow, and Gene W. Woods	675
HERITABILITY OF EGG SIZE, HATCH WEIGHT, BODY WEIGHT, AND VIABILITY IN RED GROUSE (<i>Lagopus lagopus scoticus</i>). R. Moss and A. Watson	683
SPRING MOVEMENTS OF FEMALE BLUE GROUSE: EVIDENCE FOR SOCIALLY INDUCED DELAYED BREEDING IN YEARLINGS. Susan J. Hannon, Lennart G. Sopuck, and Fred C. Zwickel	687
HATCHING ASYNCHRONY, EGG SIZE, GROWTH, AND FLEDGING IN TREE SWALLOWS. Reto Zach	695
VEGETATION, GROUND, AND FRUGIVOROUS FORAGING OF THE AMERICAN ROBIN. Cynthia A. Paszowski	701
AVIAN REPRODUCTION OVER AN ALTITUDINAL GRADIENT: INCUBATION PERIOD, HATCHLING MASS, AND EMBRYONIC OXYGEN CONSUMPTION. Cynthia Carey, Edward L. Thompson, Carol M. Vleck, and Frances C. James	710
REJECTION OF COWBIRD EGGS BY CRISSAL THRASHERS. Deborah M. Finch	719
FAT DEPOSITION AND LENGTH OF STOPOVER OF MIGRANT WHITE-CROWNED SPARROWS. Jeffrey D. Cherry	725
A CRITIQUE OF CRACRAFT'S CLASSIFICATION OF BIRDS. Storrs L. Olson	733
REMARKS ON A WORLD-WIDE INVENTORY OF AVIAN ANATOMICAL SPECIMENS. Richard L. Zusi, D. Scott Wood, and Marion Anne Jenkinson	740
SHORT COMMUNICATIONS	
Wing Fluttering by Mud-gathering Cliff Swallows: Avoidance of "Rape" Attempts? Robert W. Butler	758
Effect of Intrusion Pressure on Territory Size in Black-chinned Hummingbirds (<i>Archilochus alexandri</i>). Mary E. Norton, Peter Arcese, and Paul W. Ewald	761
Further Notes on the Juvenile Plumage of the Lesser Nighthawk. Robert W. Dickerman	764
A Note on the Occurrence of Diatoms on the Feathers of Diving Seabirds. Donald A. Croll and Robert W. Holmes	765
Enlarged Sex Chromosomes of Woodpeckers (Piciformes). Gerald F. Shields, Gordon H. Jarrell, and Elizabeth Redrupp	767
Individuality of Vocalizations in Dunlin: a Possible Acoustic Basis for Recognition of Parent by Offspring. Myron Charles Baker	771
Wetland Salinity and Salt Gland Size in the Redhead <i>Aythya americana</i> . Stephen E. Cornelius	774
Occurrences of the Asiatic Marbled Murrelet [<i>Brachyramphus marmoratus perdis</i> (Pallas)] in North America. Spencer G. Sealy, Harry R. Carter, and Delise Alison	778
Breeding Ospreys Feed Fledglings That Are Not Their Own. Alan Poole	781
Notes on the Breeding of the Chestnut-bellied Heron (<i>Agamia agami</i>) in Venezuela. Cristina Ramo and Benjamin Busto	784
Nesting by One-year-old Black-crowned Night Herons on Hope Island, Rhode Island. Thomas W. Custer and William E. Davis, Jr.	784

Records of the Crimson-collared Grosbeak (<i>Rhodothraupis celaeno</i>) from Texas. Michael J. Braun and Victor Emanuel	787
Ani Male Apparently Killed by Other Anis while Attempting to Parasitize Nest. Robert K. Loflin	787
Effects of Stage of the Breeding Cycle on Sage Sparrow Detectability. Louis B. Best and Kenneth L. Petersen	788
Does the Woodcock Bob or Rock—and Why? William H. Marshall	791
COMMENTARIES	
Variation and Nomenclature of Leach's Storm-Petrels. W. R. P. Bourne and J. R. Jehl, Jr.	793
The Condor Case: a Rallying Cry! William D. Severinghaus	797
The Condor Case: a Continuing Plea for Realism. Frank A. Pitelka	798
OBITUARY	800
BOOK REVIEWS. Edited by William E. Southern	801
NOTES AND NEWS	666, 694
CORRECTION	724
INDEX TO VOLUME 99. Compiled by Jean Ferner	822

SUPPLEMENTS

PROCEEDINGS OF THE NINETY-NINTH STATED MEETING OF THE AMERICAN ORNITHOLOGISTS' UNION	1AA-28AA
THIRTY-FOURTH SUPPLEMENT TO THE AMERICAN ORNITHOLOGISTS' UNION CHECK-LIST OF NORTH AMERICAN BIRDS	1CC-16CC
RECENT LITERATURE	1A-24A, 1B-26B, 1C-27C, 1D-19D

the rural economy. The first is the effect of mechanization on the rural economy.

The second is the effect of mechanization on the rural economy. The third is the effect of mechanization on the rural economy.

The fourth is the effect of mechanization on the rural economy. The fifth is the effect of mechanization on the rural economy.

The sixth is the effect of mechanization on the rural economy. The seventh is the effect of mechanization on the rural economy.

The eighth is the effect of mechanization on the rural economy. The ninth is the effect of mechanization on the rural economy.

The tenth is the effect of mechanization on the rural economy. The eleventh is the effect of mechanization on the rural economy.

The twelfth is the effect of mechanization on the rural economy. The thirteenth is the effect of mechanization on the rural economy.

The fourteenth is the effect of mechanization on the rural economy. The fifteenth is the effect of mechanization on the rural economy.

The sixteenth is the effect of mechanization on the rural economy. The seventeenth is the effect of mechanization on the rural economy.

The eighteenth is the effect of mechanization on the rural economy. The nineteenth is the effect of mechanization on the rural economy.

The twentieth is the effect of mechanization on the rural economy. The twenty-first is the effect of mechanization on the rural economy.

The twenty-second is the effect of mechanization on the rural economy. The twenty-third is the effect of mechanization on the rural economy.

The twenty-fourth is the effect of mechanization on the rural economy. The twenty-fifth is the effect of mechanization on the rural economy.

The twenty-sixth is the effect of mechanization on the rural economy. The twenty-seventh is the effect of mechanization on the rural economy.

The twenty-eighth is the effect of mechanization on the rural economy. The twenty-ninth is the effect of mechanization on the rural economy.

The thirtieth is the effect of mechanization on the rural economy. The thirty-first is the effect of mechanization on the rural economy.

The thirty-second is the effect of mechanization on the rural economy. The thirty-third is the effect of mechanization on the rural economy.

The thirty-fourth is the effect of mechanization on the rural economy. The thirty-fifth is the effect of mechanization on the rural economy.

